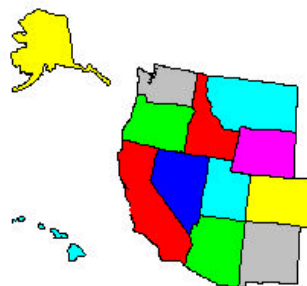


# **WRCC Data and Climate Activities and Interactions with the National Park Service**

**Kelly T. Redmond**

**Western Regional Climate Center  
Desert Research Institute  
Reno Nevada**



# Western Regional Climate Center

2215 Raggio Parkway  
Reno, Nevada 89512



Phone: (775) 674-7010  
Fax: (775) 674-7016

e-mail: [wrcc@dri.edu](mailto:wrcc@dri.edu)

[Site Map](#)

## Historical Climate Information

Western U.S. Historical Summaries; Precipitation Maps; Station Inventories; Wind and Evaporation Data; Coastal Water Table; etc.

## WRCC Projects

El Nino & La Nina; CEMP; WET; BLM RAWS; Current Weather Plots; Photo Gallery; Webcam; etc.

## More Climate Information

Pricing and Formats; Solar Radiation (U of Oregon); Sunrise/Sunset Information (USNO); Divisional Climate Plots; etc.

## Non-WRCC Climate Resources

National Climatic Data Center; Climate Prediction Center; National Drought Mitigation Center; CEFA; etc.

## Current Observations and Forecasts

Nat'l Weather Service Current and Past 24-hour Reports; Snotel; Climate Prediction Center Outlooks; Satellite and Radar Imagery; etc.

## Climate Monitoring

Anomalies (Snotel & Airports); SPI; Product List; WGA data and information; etc.

## Educational and Travel Pages

Terms; More about Weather and Climate - for teachers and kids! Climate for resorts and Nat'l parks around the West.

## About the WRCC

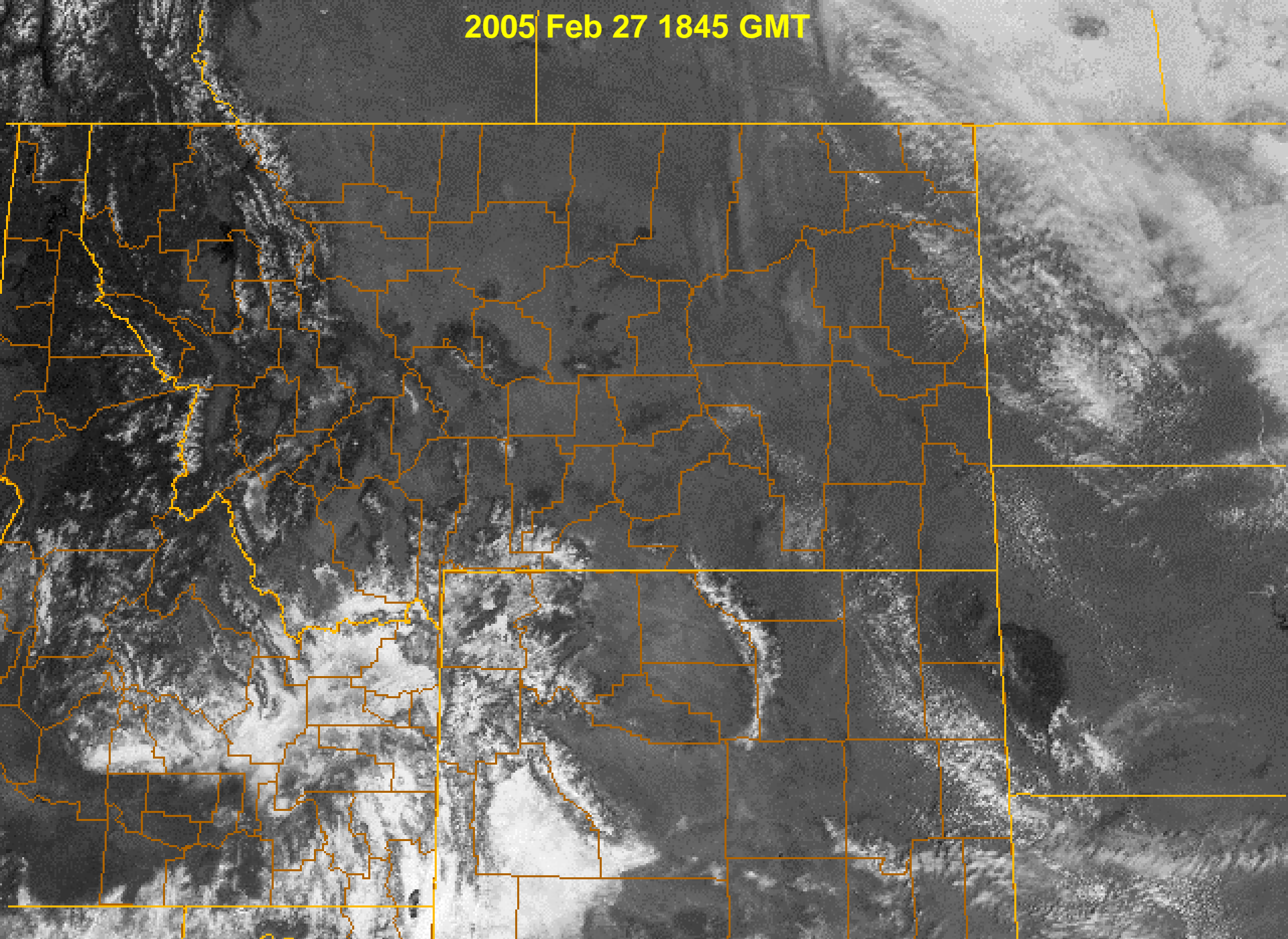
Staff; Funding; Overview of WRCC; DRI Home Page; INTERNAL; etc.

WRCC Supports a Three-Partner National Climate Services Program - the Partners Include:  
[National Climatic Data Center](#) (NCDC), [Regional Climate Centers](#) (RCC's), and [State Climate Offices](#).

This is the new WRCC web page, you can still go to the [old WRCC home page](#).

**A busy web site ... approximately 100,000 accesses per day, and about 100 Mb per day of data / products.**

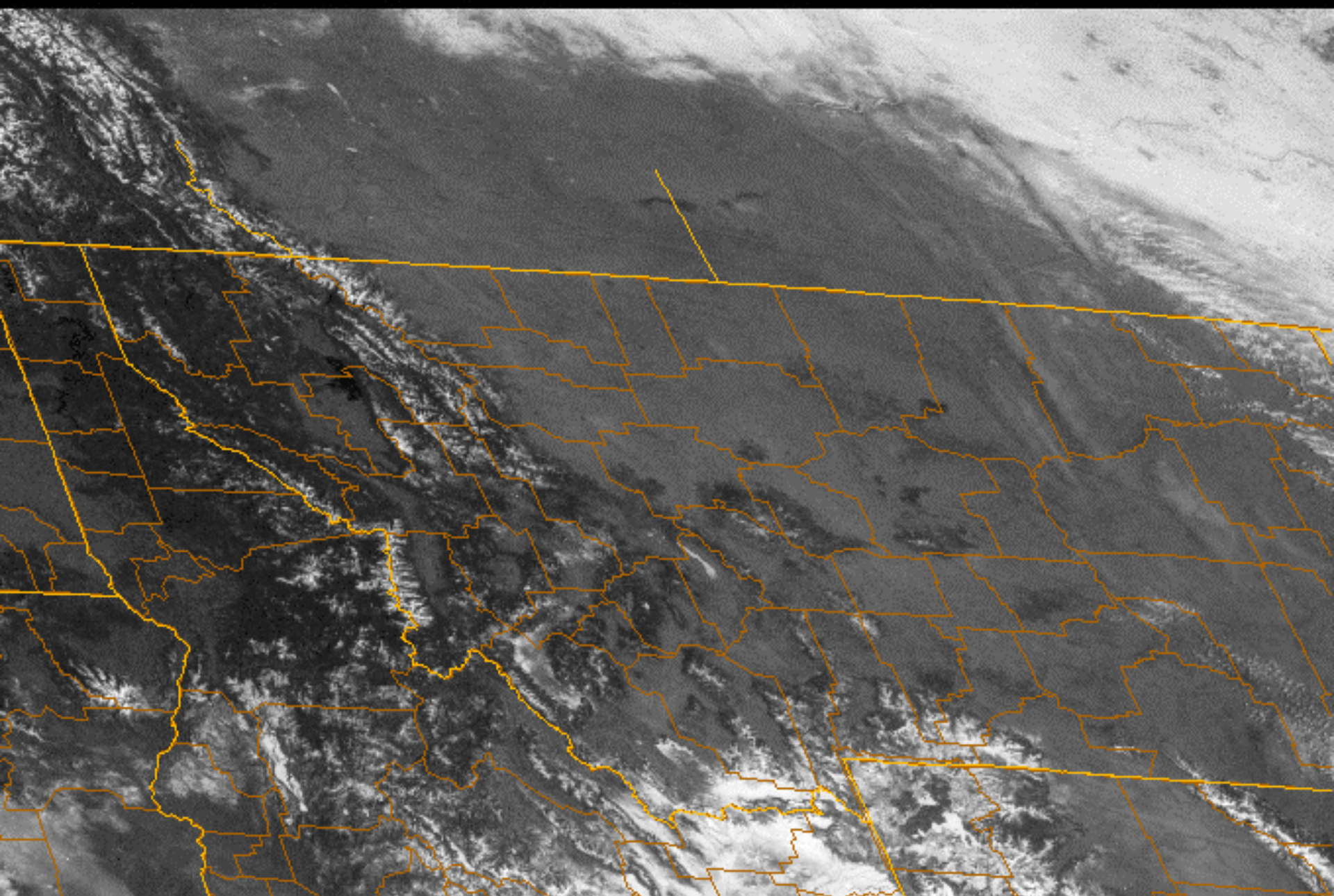
2005 Feb 27 1845 GMT



GOES-WEST 27 FEB 05 TIME=18:45UTC RES=2 KM NWS/WR-SSD

**2005 Feb 27 1845 GMT**

G-10 IMG 01 27 FEB 05 TIME=18:45UTC RES=01.00KM NWS/WR-SSD

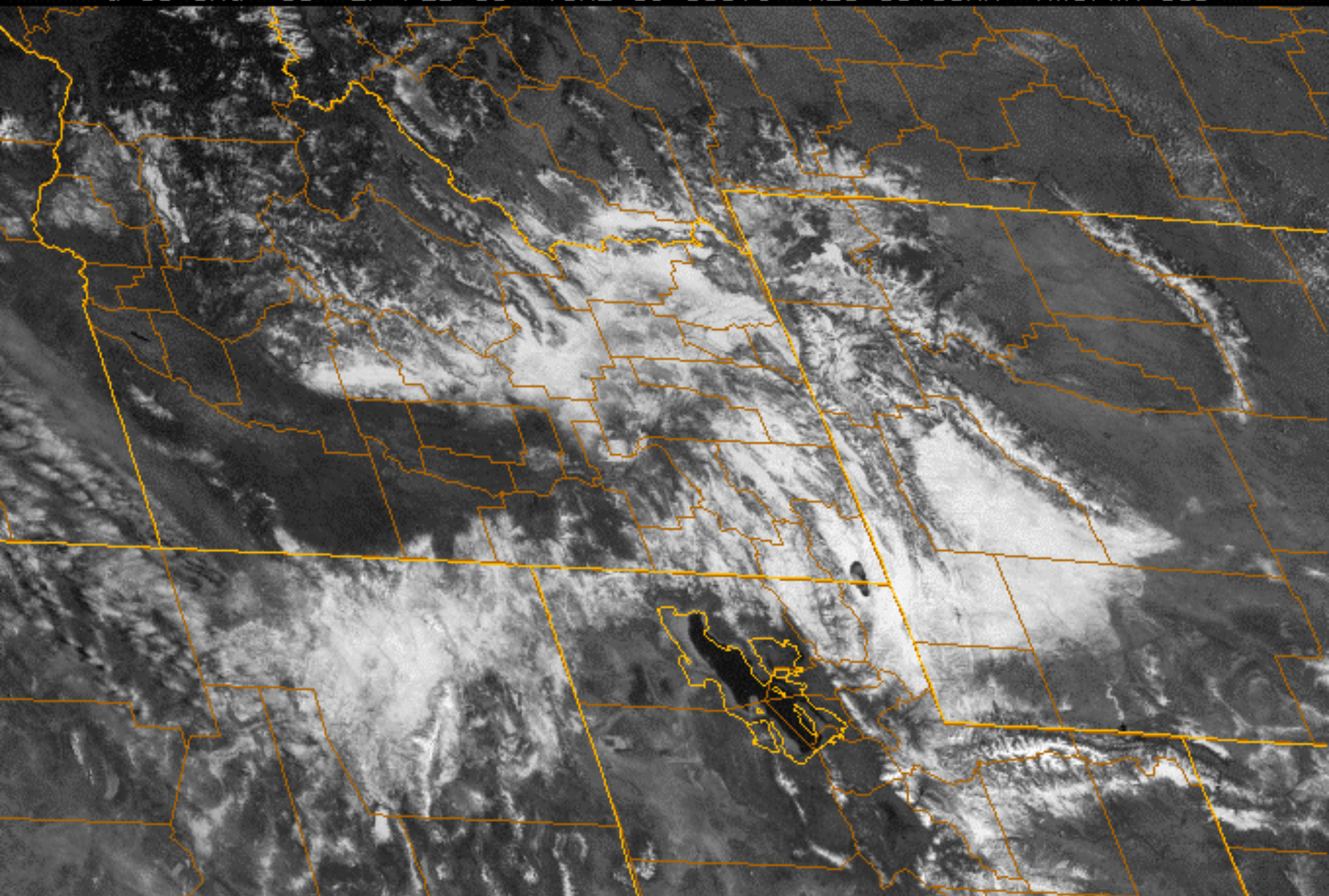


0002 G-10 IMG 01 27 FEB 05058 184500 03369 17429 01.00



2005 Feb 27 1900 GMT

G-10 IMG 01 27 FEB 05 TIME=19:00UTC RES=01.00KM NWS/WR-SSD



0002 G-10 IMG 01 27 FEB 05058 190000 03660 17549 01.00

# Western Regional Climate Center

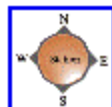
## WRCC Projects

[Climate Information](#) [Current Observations](#) [Projects](#) [Monitoring](#) [More Info](#) [Educational & Travel](#) [More Sources](#) [About us](#) [BACK TO HOME PAGE](#)

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[S. Nevada Community Environmental Monitoring Project \(CEMP\)](#)  
Data Monitoring Stations surrounding the NV test site.



[Wind Energy Assessment for Nevada](#)  
Nevada Wind Study Towers.



[RAWs Data](#)  
Summaries, Graphs, and other products for RAWs.



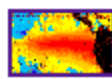
[Rodeo-Chediski BAER RAWs stations](#)  
Raw Stations in the Rodeo-Chediski fire area.



[Current Weather Data Plots](#)  
Current Data Plots



Photo Galley of the Western States:  
[Landscapes](#); [Sunrise](#), [Sunset and Lunar](#); and [Misc.](#)



[El Nino/La Nina and the Western US, Alaska and Hawaii](#)  
Information regarding El Nino and La Nina.



[Yucca Mountain Climate Data Project](#)  
Climate Data from Yucca Mountain, Nevada.



[Washoe Evapotranspiration Project \(WET\)](#)  
Weather Stations that Monitor Evapotranspiration Rates.



[Channel Islands N.P. RAWs](#)  
RAWs Stations in the Channel Islands N.P., California.



[Crater Lake N.P. Monitoring](#)  
Monitoring Stations in Crater Lake N.P., Oregon.



[Yosemite N.P. Monitoring](#)  
Monitoring Stations in Yosemite N.P.



[Current Webcam View from DRI-NNSC](#)  
View from the WRCC office



[Snotel Data](#)  
Listings, Narratives, Maps and Station Conditions



[California Climate Data Archive](#)  
California Climate Information and Data (Scripps and CEC)



[Nevada Test Site /NOAA/ARL/SORD/ MEDA Data Project](#)  
Climate Data from Nevada Test Site.

## NIFC Fire RAWS projects

### Inactive Data Collection projects



#### [Los Alamos - Cerro Grande Fire \(BLM RAWS\)](#)

RAWS Stations in New Mexico.



#### [Columbia Shuttle Recovery RAWS](#)

Raws Station in Eastern Texas.



#### [Hot Creek Fire RAWS stations](#)

Raws Stations in the Hot Creek Fire (2003) fire area.



#### [Canyon Creek Fire RAWS stations](#)

Raws Stations in the Canyon Creek Fire (2003) fire area.



#### [Slims Fire RAWS stations](#)

Raws Stations in the Slims Fire (2003) fire area.



#### [Robert Fire RAWS stations](#)

Raws Stations in the Robert Fire (2003) fire area.



#### [Fish Creek - Mineral Primm - Black Mtn Fire RAWS stations](#)

Raws Stations in the Fish Creek - Mineral Primm - Black Mtn Fire (2003) fire areas.



#### [Cherry Creek Fire RAWS stations](#)

Raws Stations in the Cherry Creek Fire (2003) fire area.



#### [Cathedral Fire RAWS stations](#)

Raws Stations in the Cathedral Fire (2003) fire area.



#### [Booth Fire RAWS stations](#)

Raws Stations in the Booth Fire (2003) fire area.



#### [World Trade Center Recovery-Environmental Monitoring RAWS](#)

Raws Stations in the WTC Area.



#### [Fawn Peak Fire RAWS stations](#)

Raws Stations in the Fawn Peak Fire (2003) fire area.



#### [N. Bighorn Complex Fire RAWS stations](#)

Raws Stations in the N. Bighorn Complex Fire (2003) fire areas.



#### [Wedge Canyon and Trapper Creek Fire RAWS stations](#)

Raws Stations in the Wedge Canyon Fire and Trapper Creek Fire (2003) fire areas.



#### [Marble and North Fork Lick Fire RAWS stations](#)

Raws Stations in the Marble and North Fork Lick Fire (2003) fire areas.



#### [Beaver Lake Fire RAWS stations](#)

Raws Stations in the Beaver Lake Fire (2003) fire areas.



#### [Crazy Horse Fire RAWS stations](#)

Raws Stations in the Crazy Horse Fire (2003) fire areas.

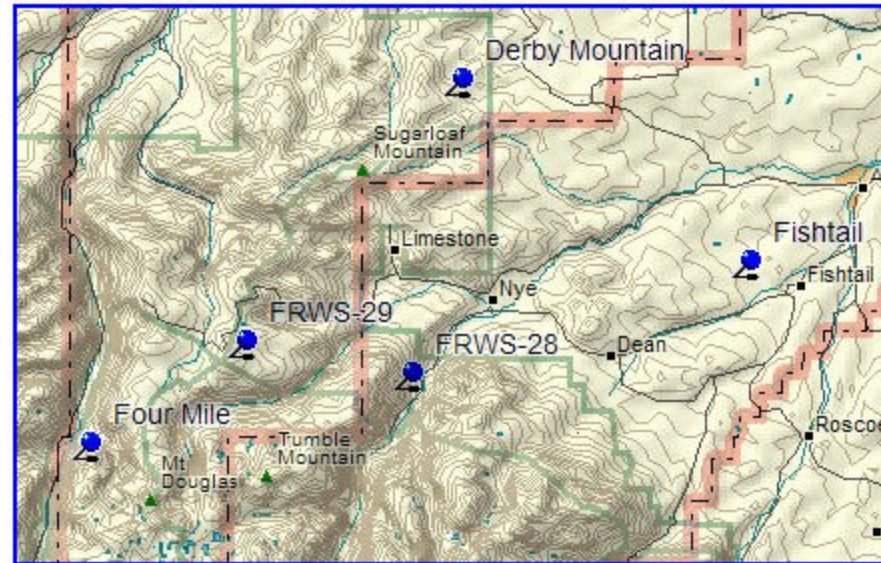


#### [Burnt Ridge Complex Fire RAWS stations](#)

Raws Stations in the Burnt Ridge Complex Fire (2003) fire areas.



# Cathedral Fire RAWS Stations



Map Courtesy of



Click on site of interest for more information.  
Data is subject to review and verification.

## Cooperating Agencies:





# Western Regional Climate Center

## WRCC NPS Projects

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### [Aniakchak N.M. Monitoring](#)

Climate Monitoring stations in Aniakchak National Monument and Preserve, Alaska.



### [Katmai N.P. Monitoring](#)

Climate Monitoring stations in Katmai National Park and Preserve, Alaska.



### [Kenai Fjords N.P. Monitoring](#)

Climate Monitoring stations in Kenai Fjords National Park, Alaska.



### [Lake Clark N.P. Monitoring](#)

Climate Monitoring stations in Lake Clark National Park and Preserve, Alaska.



### [Denali N.P. Monitoring](#)

Climate Monitoring stations in Denali National Park and Preserve, Alaska.



### [Channel Islands N.P. RAWS](#)

Climate Monitoring Stations in the Channel Islands N.P., California.



### [Crater Lake N.P. Monitoring](#)

Climate Monitoring Stations in Crater Lake N.P., Oregon.



### [Yosemite N.P. Monitoring](#)

Climate Monitoring Stations in Yosemite N.P., California.



### [Wrangell-St. Elias N.P. Monitoring](#)

Climate Monitoring stations in Wrangell-St. Elias National Park, Alaska.



### [Yukon-Charley Rivers N.P. Monitoring](#)

Climate Monitoring stations in Yukon-Charley Rivers National Preserve, Alaska.



[Return to previous page.](#)

# Channel Island National Park Stations

## RAWS/NDBC Buoy/Manual Ranger Stations

### Recent web page changes:

- Composite Daily Summaries added. (Link found below the map.)



Click on site of interest for more information.  
Data is subject to review and verification.

[Composite Daily Summaries](#)

# Channel Island National Park Stations

## RAWS/NDBC Buoy/Manual Ranger Stations

### Recent web page changes:

- Composite Daily Summaries added. (Link found below the map.)



Click on site of interest for more information.  
Data is subject to review and verification.

[Composite Daily Summaries](#)

### Historical Climate Data

[Anacapa Island](#)  
[Santa Barbara Island](#)  
[Santa Cruz Island](#)  
[San Miguel Island](#)  
[Santa Rosa Island](#)

### Cooperating Agencies:



[Desert Research Institute](#)



[National Interagency  
Fire Center](#)



[Western Regional  
Climate Center](#)

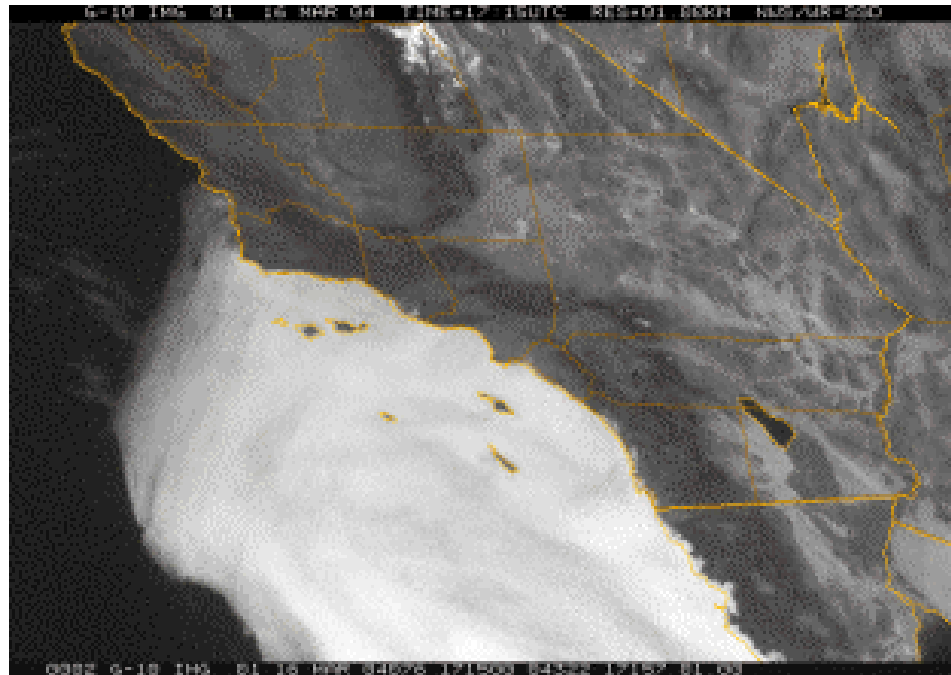


[National  
Park Service](#)



[National  
Data Buoy Center](#)

# **Channel Islands National Park: Design Considerations for Weather and Climate Monitoring**



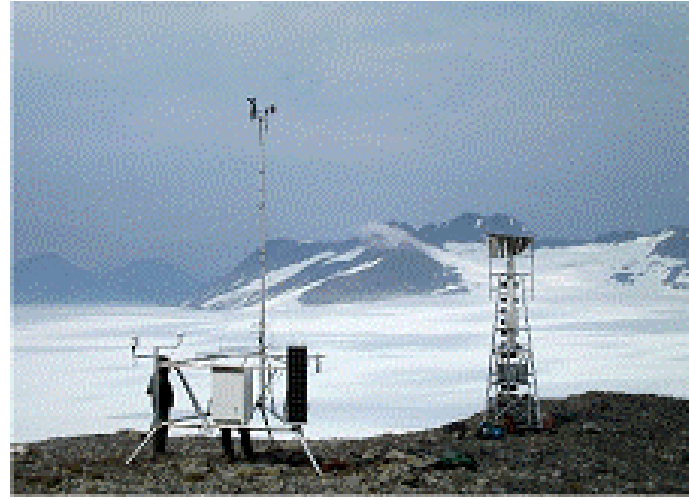
**Kelly Redmond  
Greg McCurdy**

**Report WRCC 05-02  
February 2005**

**Western Regional Climate Center  
Desert Research Institute  
2215 Raggio Parkway  
Reno Nevada 89512-1095**



# **Climate Monitoring for Southwest Alaska National Parks: Network Design and Site Selection**



Kelly T. Redmond  
David B. Simeral  
Greg D. McCurdy

**February 2005**

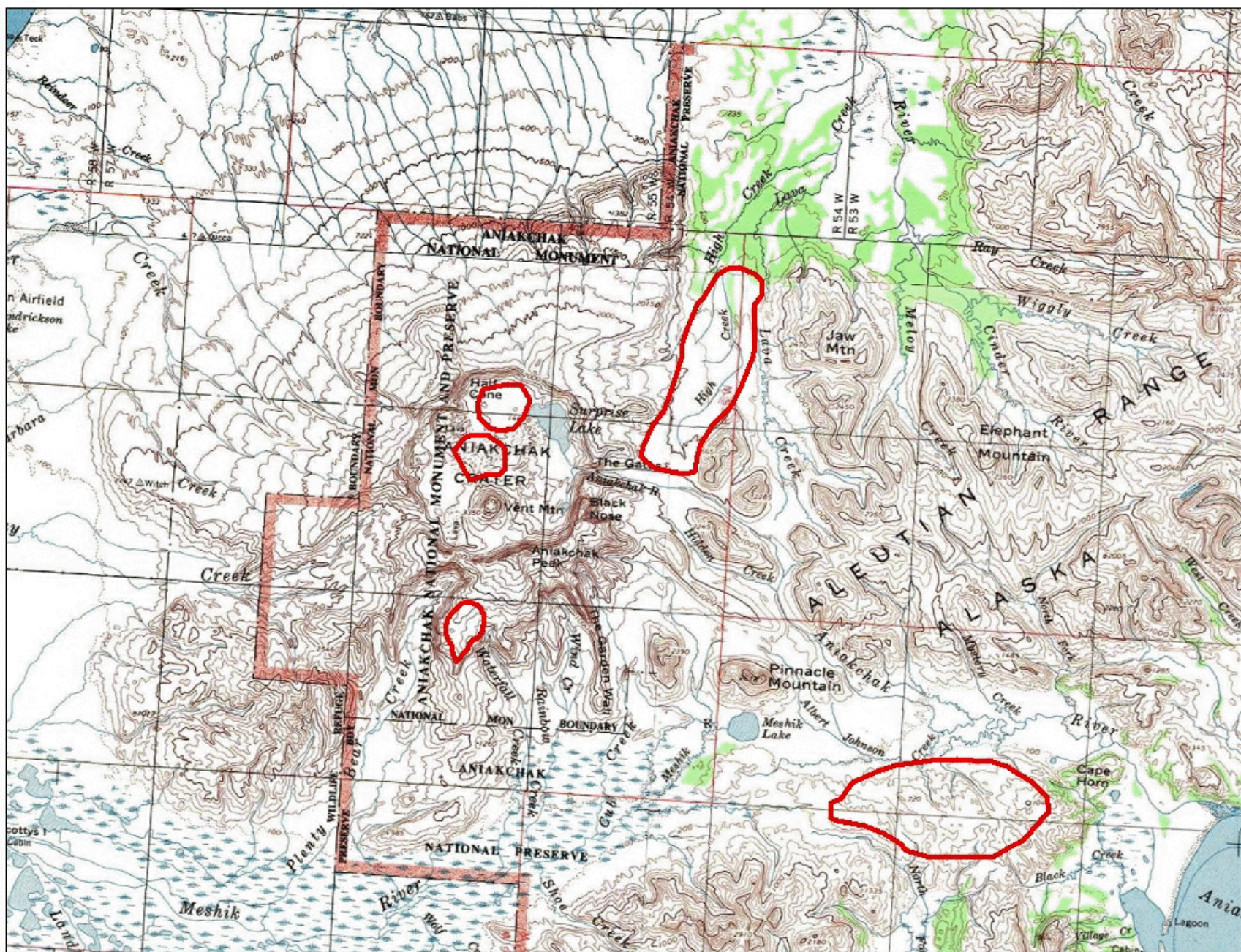
**Western Regional Climate Center  
Desert Research Institute  
Reno Nevada**

In Cooperation with  
Great Basin Cooperative Ecosystem Studies Unit  
Task Agreement J8R07040002

Report WRCC 05-01



## Aniakchak, Proposed Sites near Crater

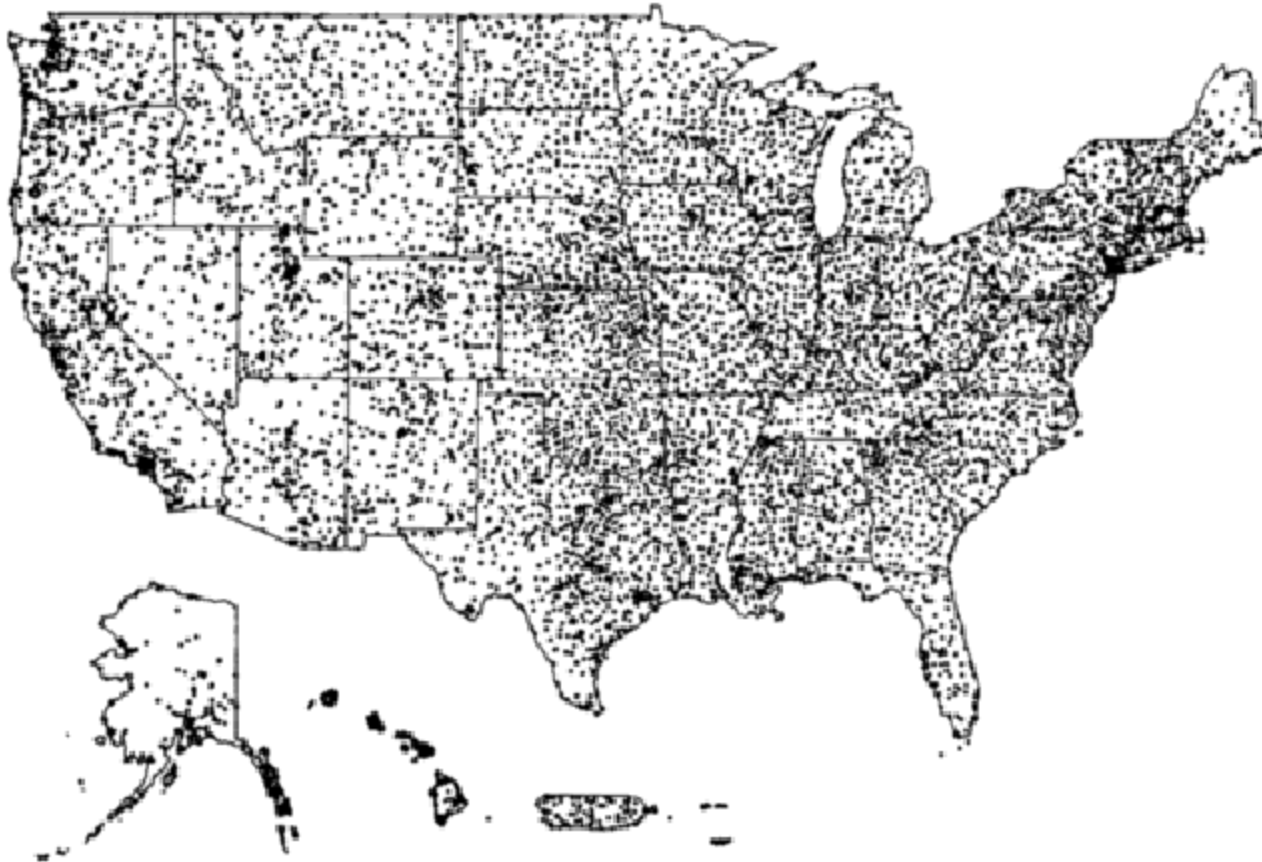




**<ftp.wrcc.dri.edu/npsak/report/swanreportfinal.pdf>**

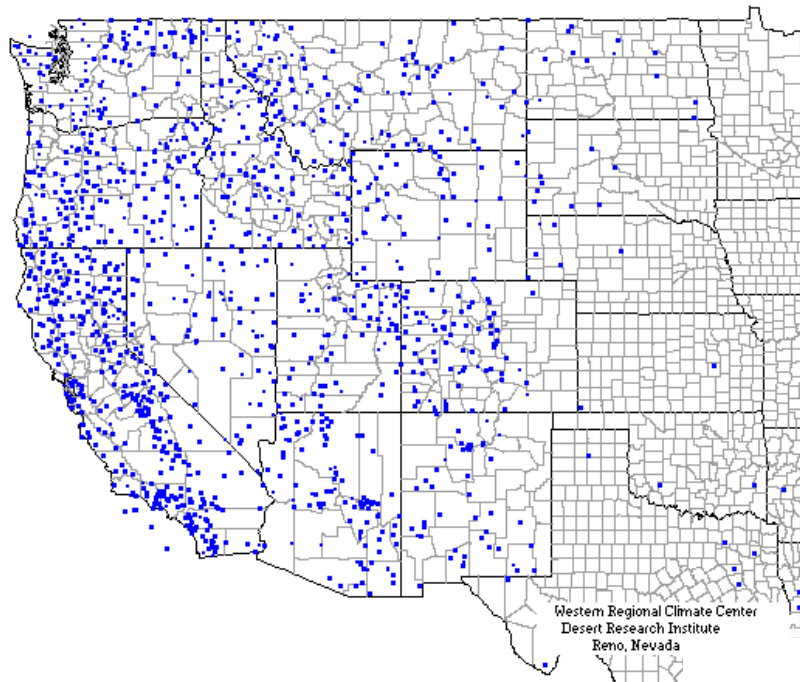
**<ftp.wrcc.dri.edu/npsak/photodocumentation.ppt> or pdf**

## **National Weather Service Cooperative Network**



**Approximately 5000 daily max/min temperature stations, 8000 daily precipitation stations, 3000 automated hourly precipitation stations.**

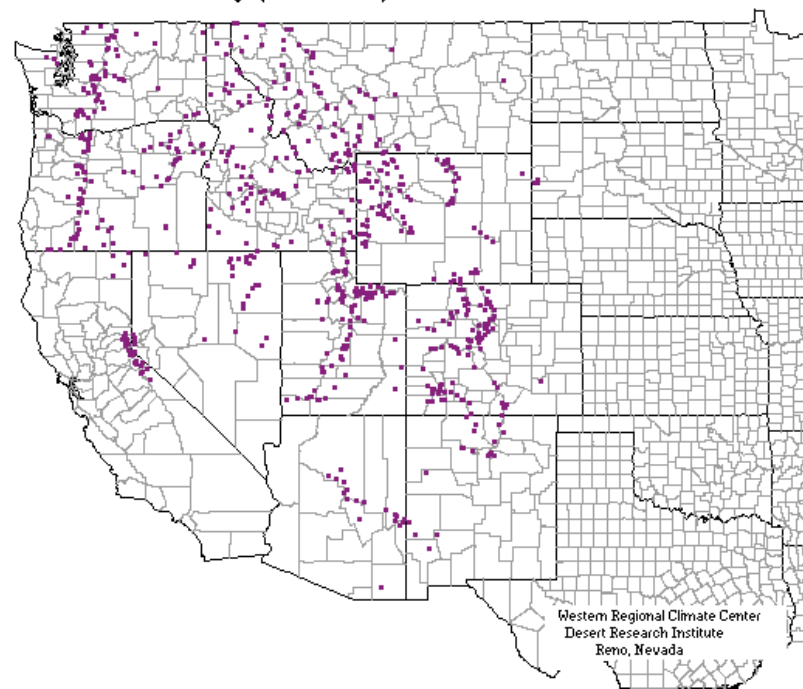




## Remote Automated Weather Stations RAWS

**1100 Active**

**700 Inactive**



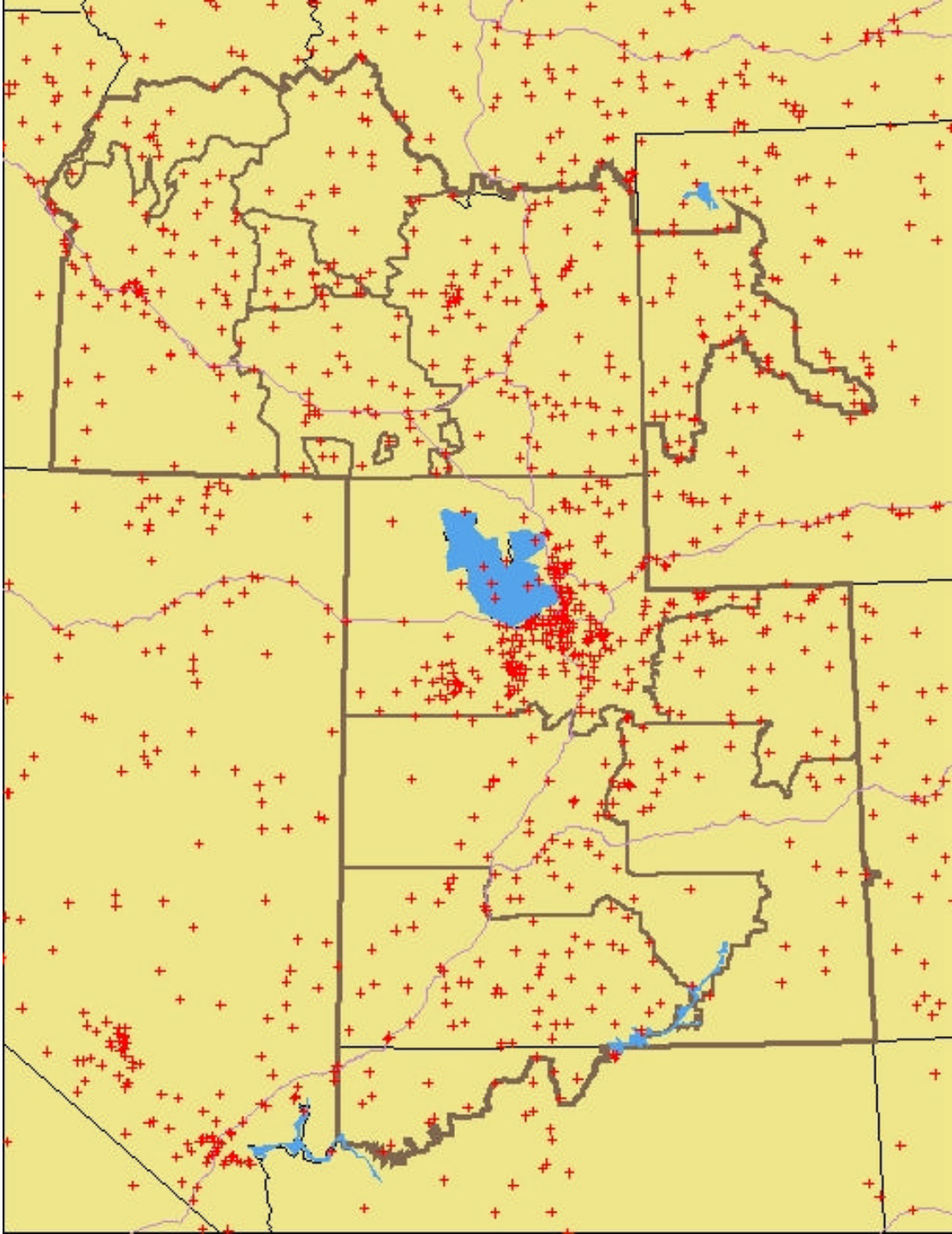
**Snowfall Telemetry  
SNOTEL  
700 Active**

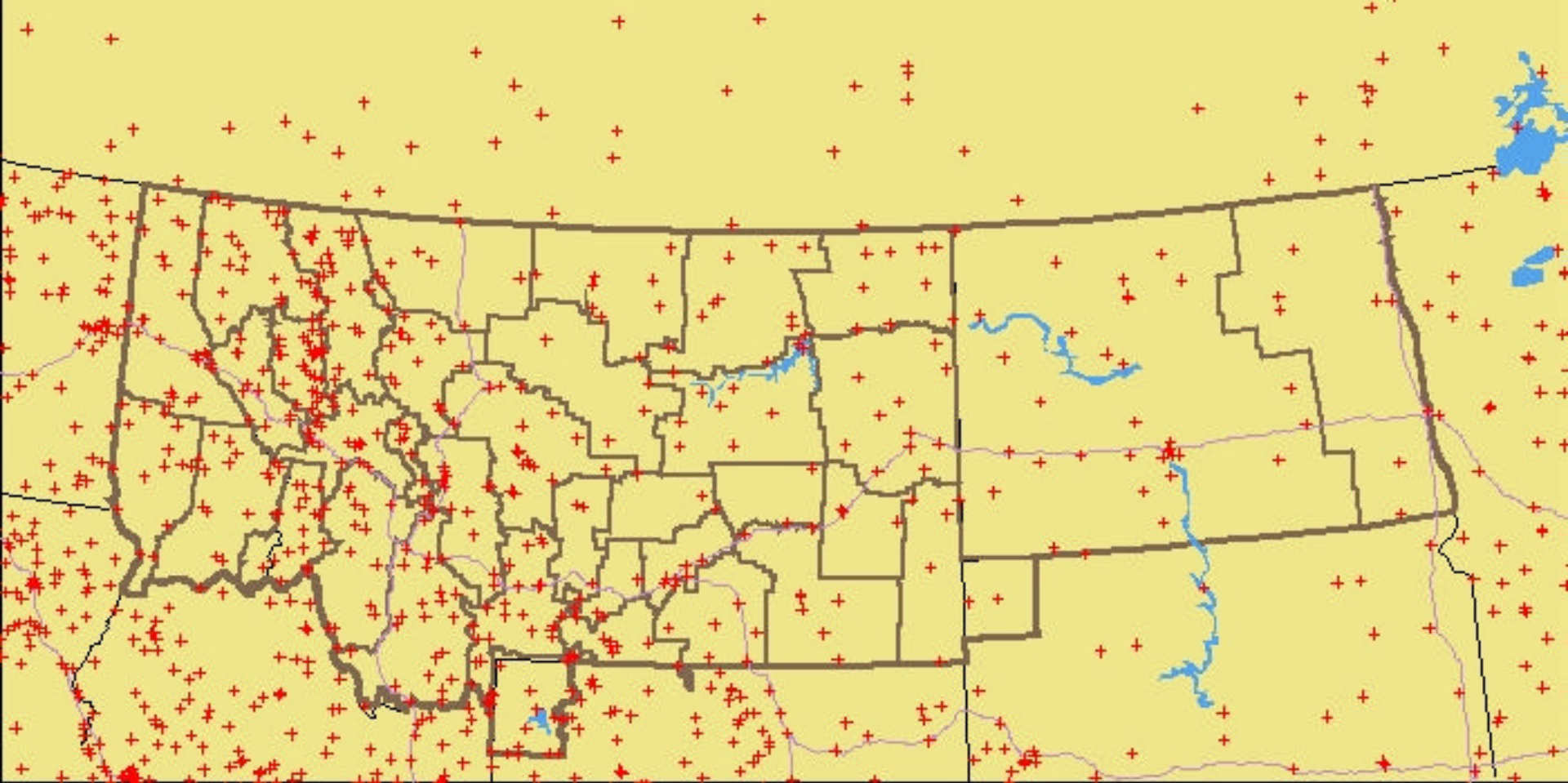
**Eastern Great Basin.**

**Stations captured by  
Mesowest**

**Notes:**

- 1) These are all automated stations**
- 2) Many are weather stations, not climate stations**





**Northern Rockies.**

**Stations captured by  
Mesowest**

**Notes:**

- 1) These are all automated stations**
- 2) Many are weather stations, not climate stations**





**South**



**Central Sierra Snow Lab**

**East**















# CA Stovepipe Wells 1 SW, Death Valley National Park (Stovepipe Wells Site)

36.6 N 117.1 W 80'

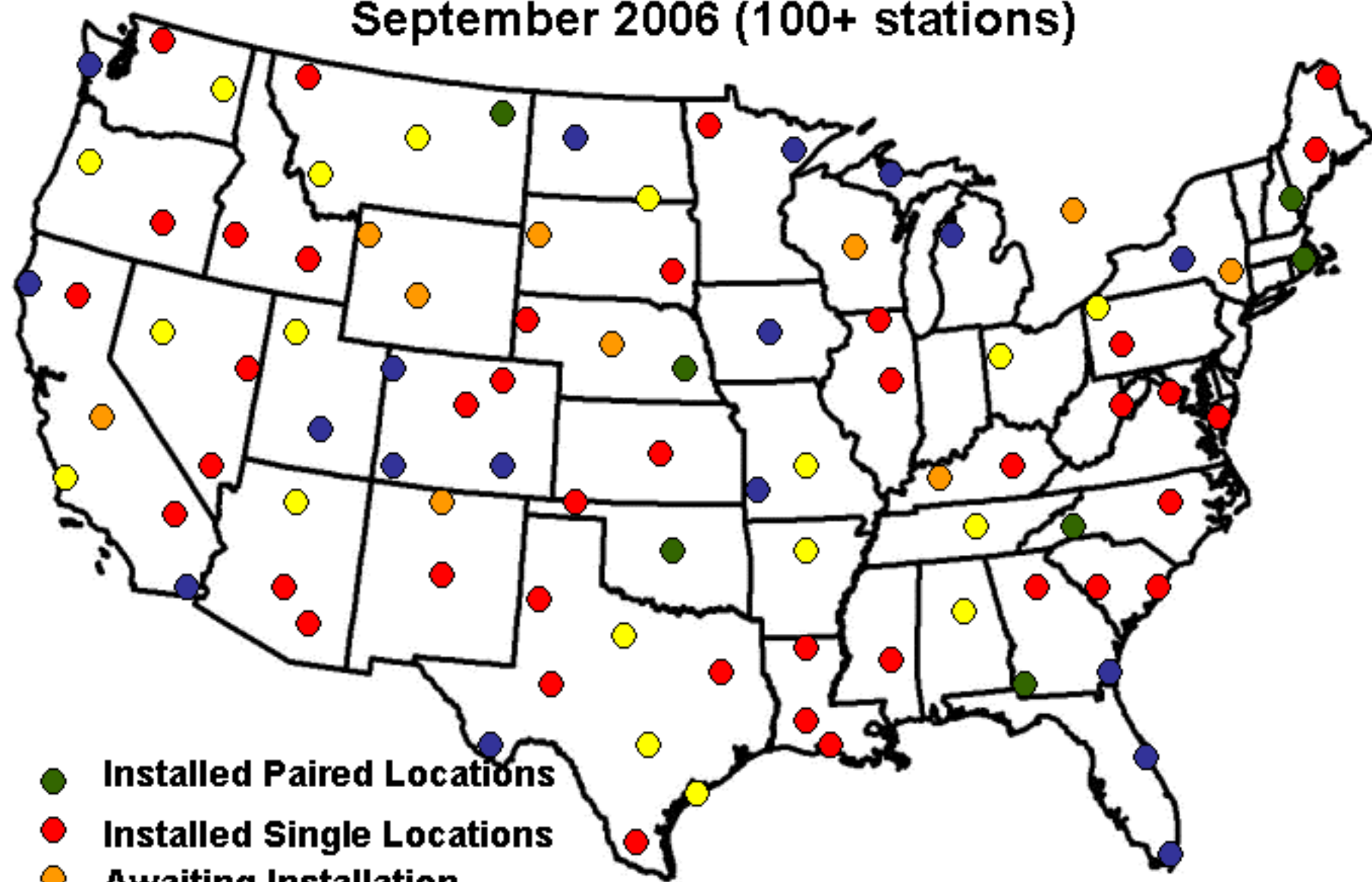
May 6, 2004





# Location of 100-station USCRN in CONUS

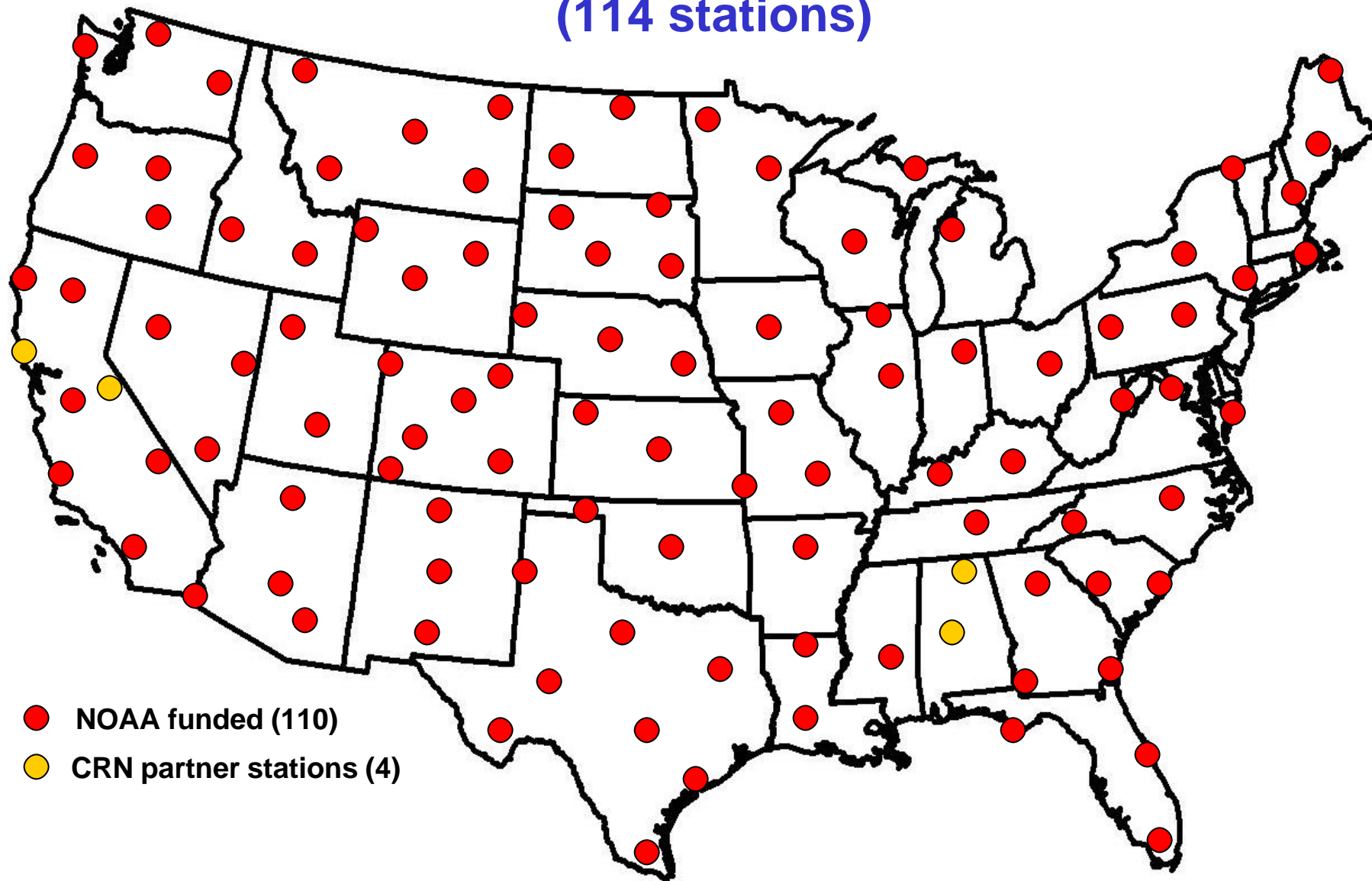
## September 2006 (100+ stations)



- Installed Paired Locations
- Installed Single Locations
- Awaiting Installation
- Awaiting SLA
- Awaiting Review/Survey

As of May 13, 2004

# Locations of USCRN Stations in CONUS (114 stations)



# **Photographic Documentation of Long-Term Climate Stations**

**Draft Draft Draft**

**Kelly T. Redmond**

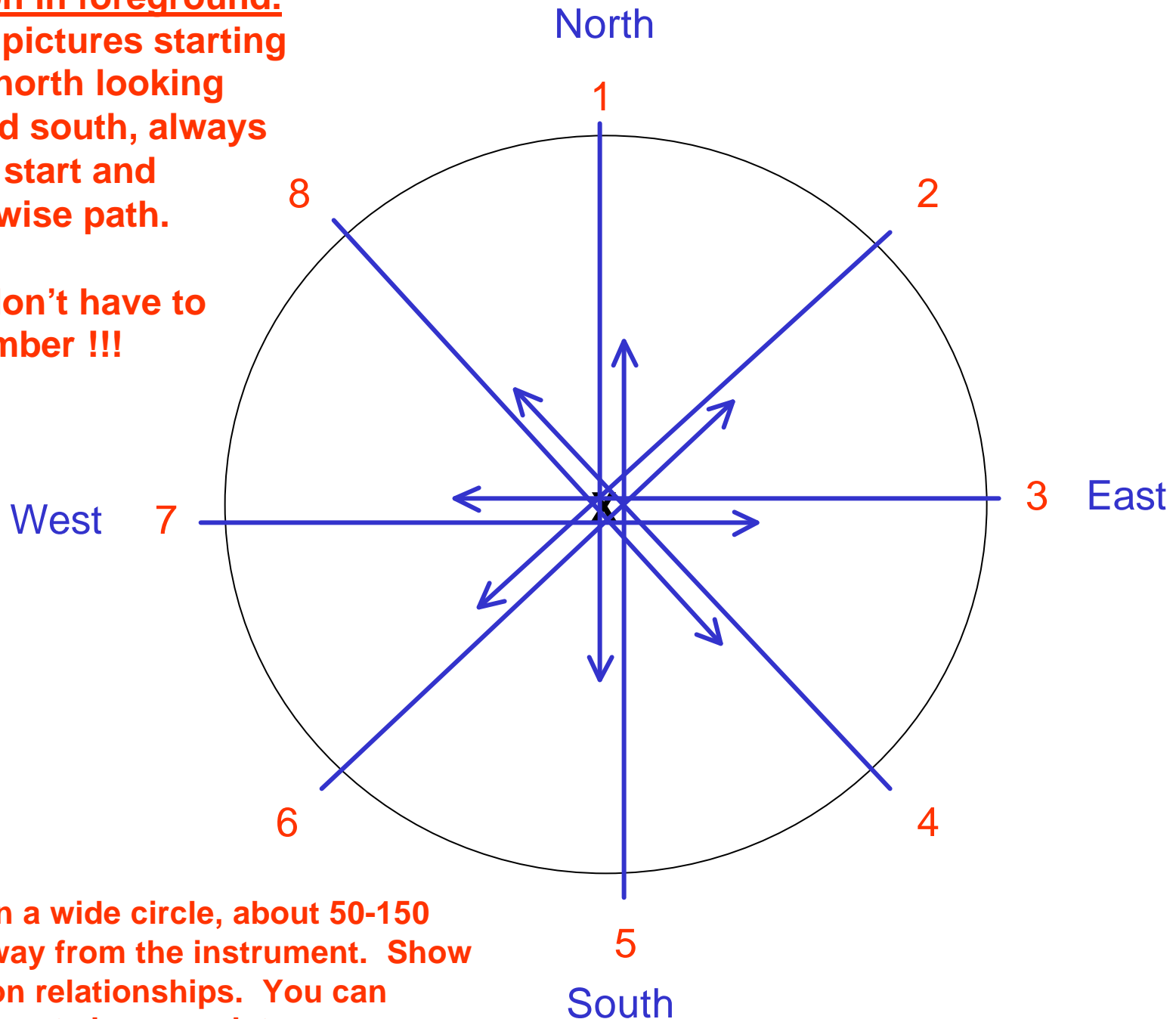
**Regional Climatologist  
Western Regional Climate Center  
Desert Research Institute  
Reno Nevada 89512-1095  
775-674-7011 voice  
775-674-7016 fax  
kelly.redmond@dri.edu**

Station in foreground.

Eight pictures starting  
from north looking  
toward south, always  
same start and  
clockwise path.

Why?

You don't have to  
remember !!!



Walk in a wide circle, about 50-150  
feet away from the instrument. Show  
position relationships. You can  
always get close-ups later on.

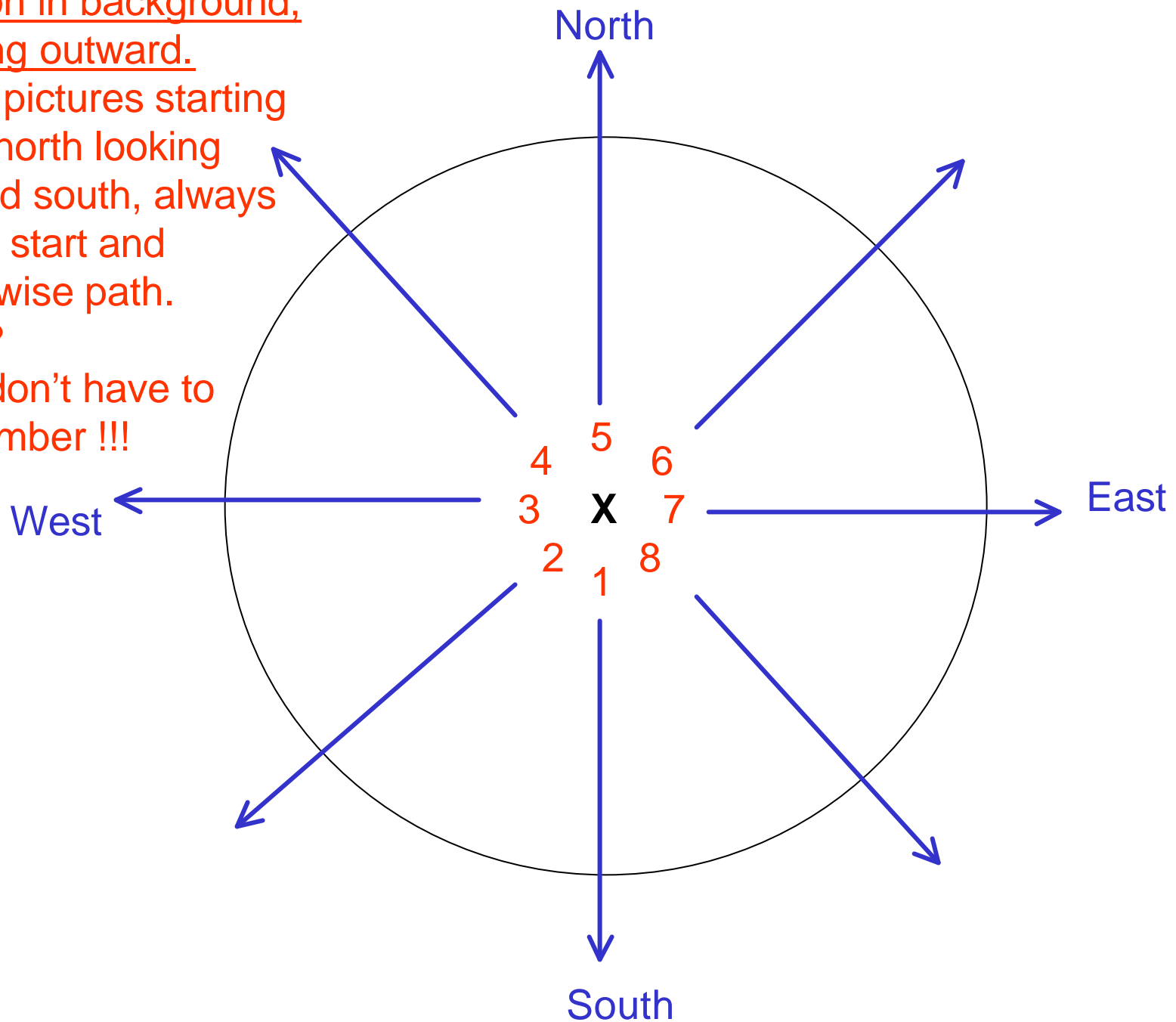


Station in background,  
looking outward.

Eight pictures starting  
from north looking  
toward south, always  
same start and  
clockwise path.

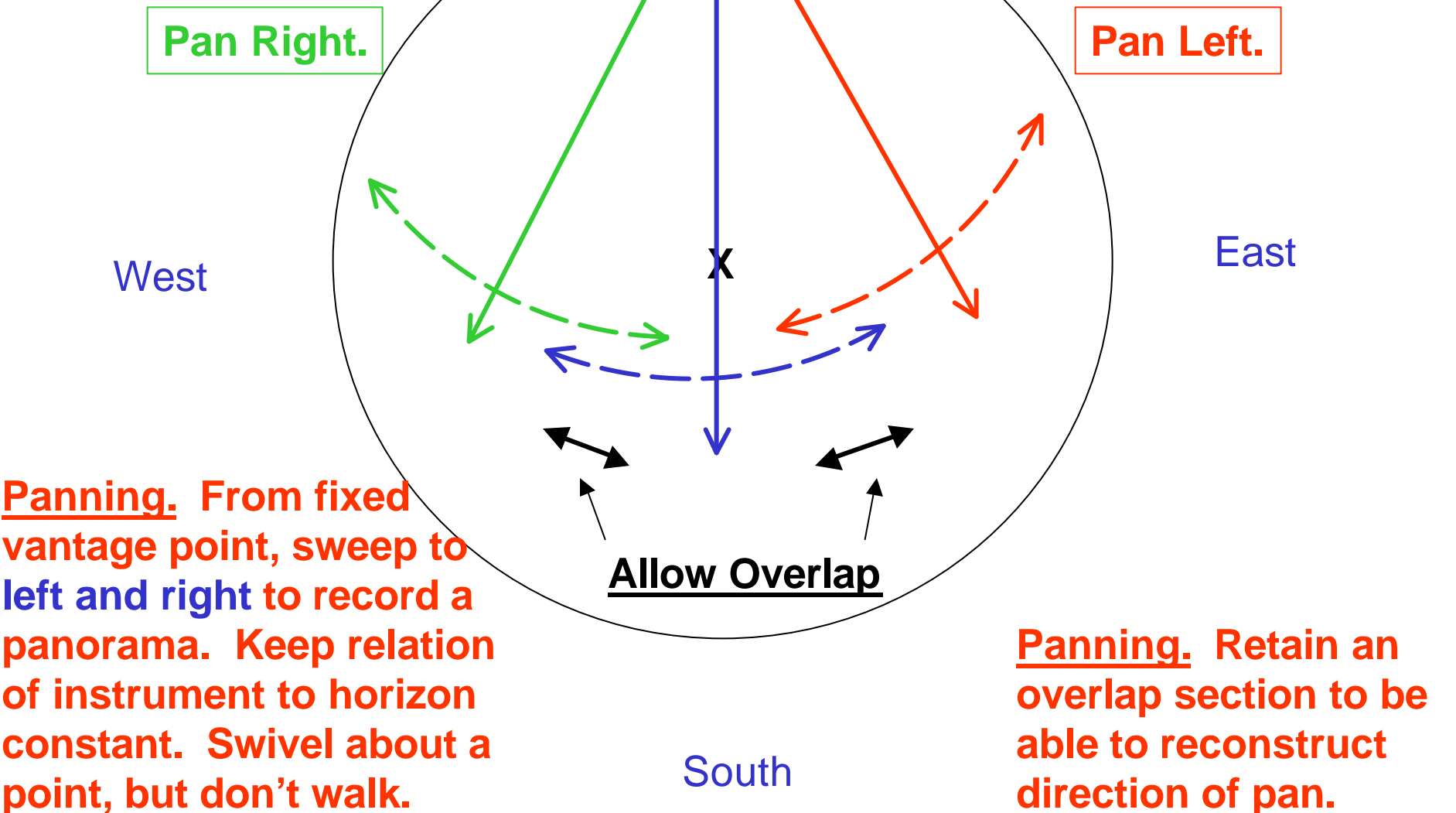
Why?

You don't have to  
remember !!!



Panning. When azimuthal field of view is limited by camera.

Panning. Can also pan up and down to show trees, mountains, surface texture.



## **What cameras do not record, at all or very well:**

**Your state of mind.**

**Anything outside the field of view.**

**What is behind, beside, above, or below you.**

**The full brightness range routinely discerned by the human eye.**

**Shadow details.**

**Highly contrasty situations, such as looking toward the sun.**

**Depth. 3 dimensions will be recorded on a 2-dimensional medium.**

**What happened prior to, or after, the shutter is snapped.**

**Shaded detail in bright sunlight, or with snow-covered ground.**

**Dark areas, when brighter conditions influence the light meter.**

**The fact that you are standing in a marsh or a mud pit or on bare rock.**



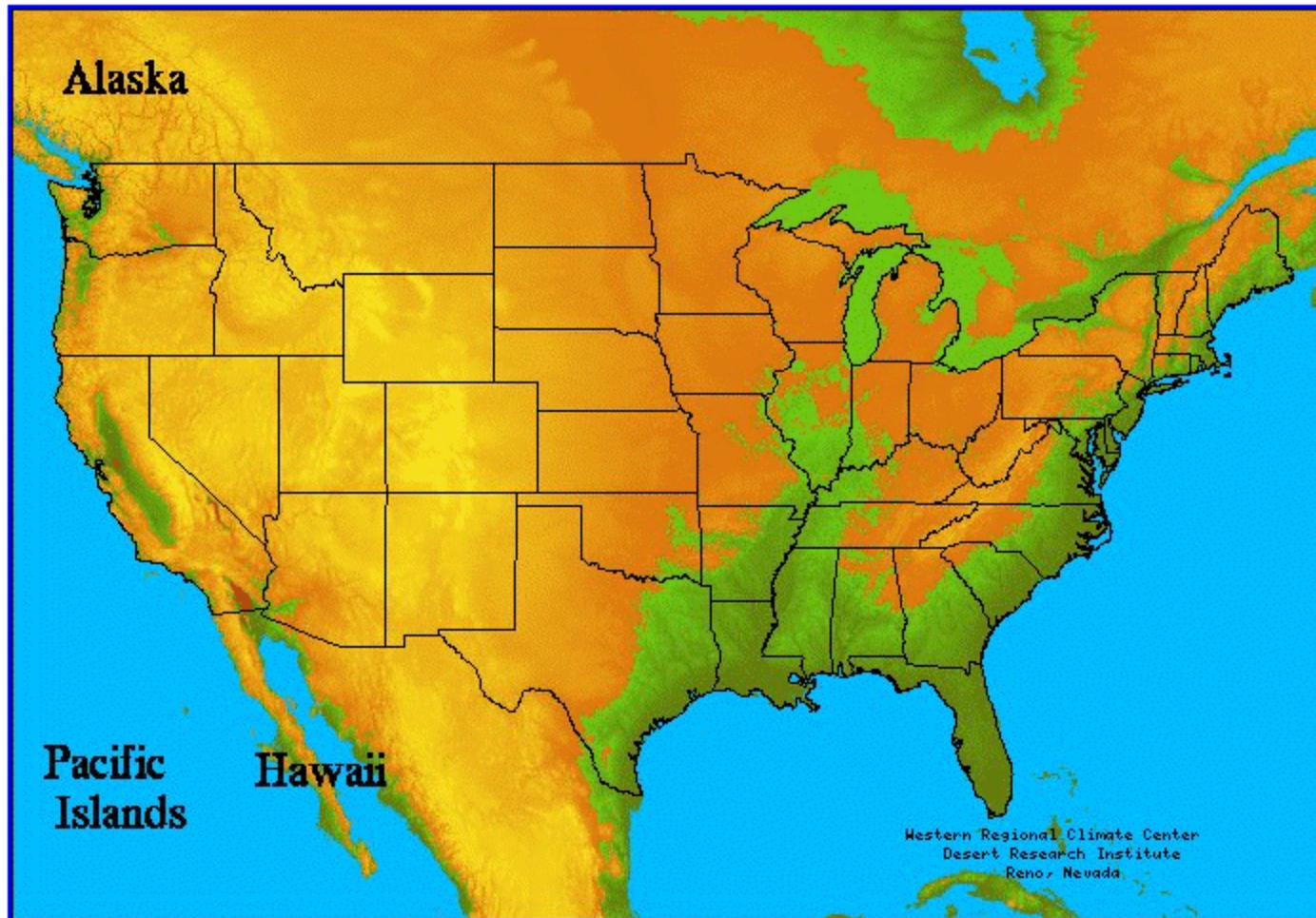
# RAWS USA Climate Archive

## NOTE:

The following pages are still under construction.  
Stations and historical data are still being added to the archives.  
Several products are also being developed and will be added as they are completed.

Best viewed with 800 X 600 or greater screen resolution.

## State Selection Map



#### RAWS sites

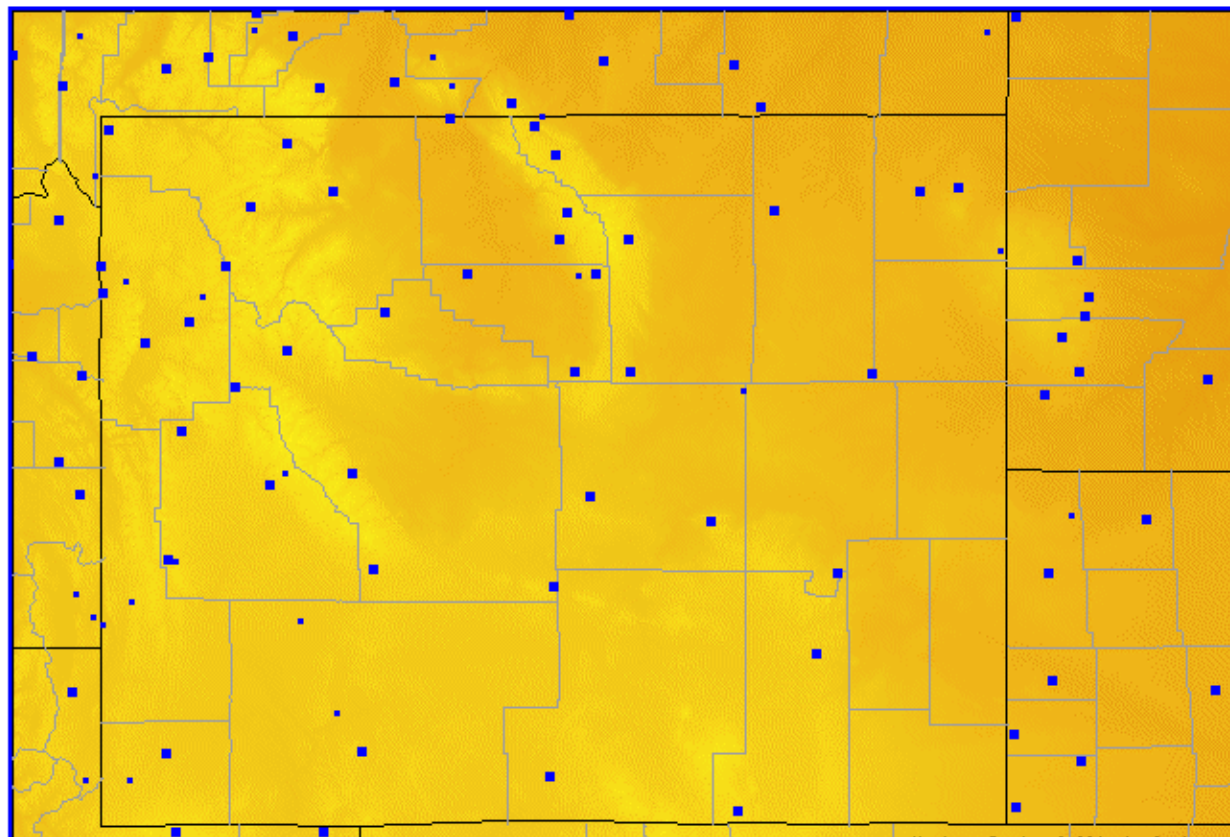
[Bear River Utah](#)  
[Cart Creek](#)  
[Chepeta Utah](#)  
[Diamond Rim](#)  
[Hewinta](#)  
[Kings Point - Dutch John 16ESE](#)  
[Little Mountain - Vernal 10NW](#)  
[Monte Cristo - Ogden SSW](#)  
[Norway - Kamas 10 W](#)  
[Otter Creek Utah](#)  
[Sage Creek](#)  
[Goslin Creek - Ashley BAER Utah](#)  
[Ute Lookout](#)  
[West Fork - Hanna 11NW](#)  
[Yellowstone - Altamont 13NNW](#)  
[Chausse Idaho](#)  
[Diamond Flat Idaho](#)  
[Getch Hollow Idaho](#)  
[Grays Lake Idaho](#)  
[Island Park Idaho](#)  
[Moody Idaho](#)  
[Pine Creek Pass Idaho \(Teton Cty\)](#)  
[Dinosaur N.M. Colorado](#)  
[Dry Lake Colorado](#)  
[Great Divide Colorado](#)  
[Harpers Corner Colorado](#)  
[Ladore Colorado](#)  
[November 01 Colorado](#)  
[Redstone Colorado](#)  
[Red Feather Colorado](#)  
[Willow Creek Colorado](#)  
[Bighorn Mountain Montana](#)  
[Bradshaw Creek Montana](#)  
[Britton Springs Montana](#)  
[Fishtail Montana](#)  
[Fort Howes Montana](#)  
[Four Mile Montana](#)  
[Hackberry Creek Montana](#)

Select a site by placing mouse cursor over a site. Site name will appear in location box below the map if browser supports javascript1.1. Click site to go to graphing options.

Large boxes indicate stations that had reported during the month when these maps were last generated. Small boxes indicate inactive or removed stations.

Map last generated on 12/16/04.

If a location has multiple stations or more than one platform in the near vicinity, overlapping boxes may create difficulty when selecting from the map. Select from the list to the left in such cases.



**Location:**

Select a site by placing mouse cursor over a site. Site name will appear in location box below the map if browser supports javascript1.1. Click site to go to available products list.

Back to:



**NOTE:**

To print data frame (right side), click on right frame before printing.

- [Daily Summary](#)
- [Daily Summary \(with Wind Chill and Heat Index\)](#)
- [Monthly Summary](#)
- [Monthly Summary \(w/ Et data\)](#)
- [Graph of last 7 days](#)
- [Time Series Graph](#)
- [Wind Rose Graph and Tables](#)
- [Wind Stability/Wind Rose Graph and Tables](#)
- [Hourly Frequency Distribution/Histogram](#)
- [Data Lister](#)
- [Data Inventory \(Monthly Graphic\)](#)
- [Station Metadata](#)
- [Current 7-day forecast \(NWS\) \(May not work correctly for some Central and Southern U.S. states.\)](#)

**NEW**

## Quadrant Wyoming

**BOLD, Red** indicates some data available for month and year.

|      |  |     |     |  |     |                                    |     |     |     |     |     |
|------|--|-----|-----|--|-----|------------------------------------|-----|-----|-----|-----|-----|
| 2005 | <b>Jan Feb</b>   | Mar | Apr | May  | Jun | Jul                                | Aug | Sep | Oct | Nov | Dec |
| 2004 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |  |     |                                    |     |     |     |     |     |
| 2003 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |  |     |                                    |     |     |     |     |     |
| 2002 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |  |     |                                    |     |     |     |     |     |
| 2001 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |  |     |                                    |     |     |     |     |     |
| 2000 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |  |     |                                    |     |     |     |     |     |
| 1999 | <b>Jan</b>   | Feb | Mar | <b>Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |                                    |     |     |     |     |     |
| 1998 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |  |     |                                    |     |     |     |     |     |
| 1997 | Jan  | Feb | Mar | Apr  | May | <b>Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |     |     |
| 1996 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |  |     |                                    |     |     |     |     |     |
| 1995 | Jan  | Feb | Mar | Apr  | May | <b>Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |     |     |



Back to:



**NOTE:**

To print data frame (right side), click on right frame before printing.

- [Daily Summary](#)
- [Daily Summary \(with Wind Chill and Heat Index\)](#)
- [Monthly Summary](#)
- [Monthly Summary \(w/ Et data\)](#)
- [Graph of last 7 days](#)
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- [Wind Rose Graph and Tables](#)
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- [Hourly Frequency Distribution/Histogram](#)
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- [Data Inventory \(Monthly Graphic\)](#)
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- [Current 7-day forecast \(NWS\) \(May not work correctly for some Central and Southern U.S. states.\)](#)



Western Regional Climate Center,  
[wrcc@dri.edu](mailto:wrcc@dri.edu)

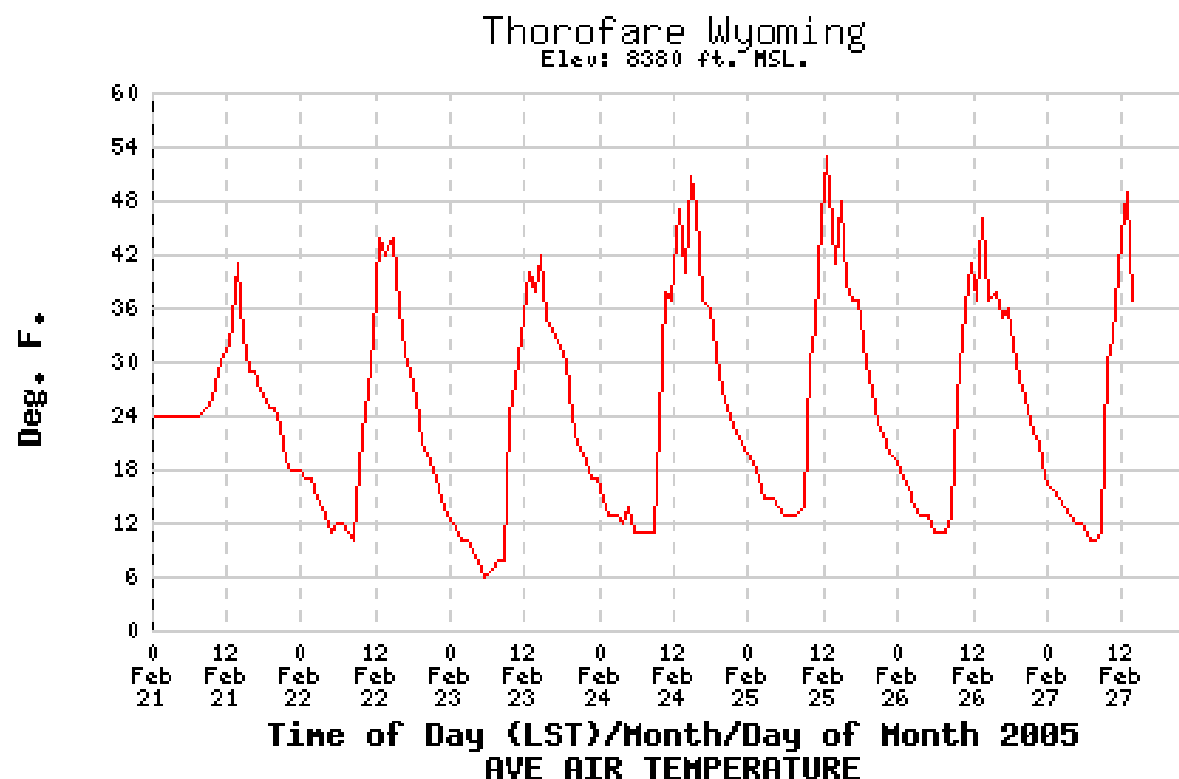
## Thorofare Wyoming

**BOLD, Red** indicates some data available for month and year.

|      |  |     |     |     |                                |                                    |     |     |     |     |                |     |
|------|--|-----|-----|-----|--------------------------------|------------------------------------|-----|-----|-----|-----|----------------|-----|
| 2005 | <b>Jan Feb</b>   | Mar | Apr | May | Jun                            | Jul                                | Aug | Sep | Oct | Nov | Dec            |     |
| 2004 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |                                |                                    |     |     |     |     |                |     |
| 2003 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |                                |                                    |     |     |     |     |                |     |
| 2002 | Jan  | Feb | Mar | Apr | May                            | <b>Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |     |                |     |
| 2001 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |                                |                                    |     |     |     |     |                |     |
| 2000 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |                                |                                    |     |     |     |     |                |     |
| 1999 | <b>Jan Feb Mar</b>                                     | Apr | May | Jun | <b>Jul Aug Sep Oct Nov Dec</b> |                                    |     |     |     |     |                |     |
| 1998 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |                                |                                    |     |     |     |     |                |     |
| 1997 | Jan  | Feb | Mar | Apr | May                            | <b>Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |     |                |     |
| 1996 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |                                |                                    |     |     |     |     |                |     |
| 1995 | Jan  | Feb | Mar | Apr | May                            | <b>Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |     |                |     |
| 1994 | Jan  | Feb | Mar | Apr | May                            | Jun                                | Jul | Aug | Sep | Oct | Nov            | Dec |
| 1993 | Jan  | Feb | Mar | Apr | May                            | Jun                                | Jul | Aug | Sep | Oct | Nov            | Dec |
| 1992 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |                                |                                    |     |     |     |     |                |     |
| 1991 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |                                |                                    |     |     |     |     |                |     |
| 1990 | <b>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</b> |     |     |     |                                |                                    |     |     |     |     |                |     |
| 1989 | Jan  | Feb | Mar | Apr | May                            | Jun                                | Jul | Aug | Sep | Oct | <b>Nov Dec</b> |     |

# Thorofare Wyoming

## AVE AIR TEMPERATURE



Western  
Regional  
Climate  
Center

### Statistics

#### Begin Date/Time

Feb. 21, 2005

:00 LST

#### End Date/Time

Feb. 27, 2005

23:00 LST

#### AVE AIR TEMPERATURE

Deg. F.

#### Average

24.2

#### Max. | Min.

52.9 | 5.9

# Thorofare Wyoming

Latitude : 44° 09' 30" N  
Longitude : 110° 05' 00" W  
Elevation : 8380 ft.  
Report Generated on: Feb. 27, 2005

Start Date : Feb. 1, 1989  
End Date : Feb. 28, 2005  
# of Days : 496 of 5872  
# obs : poss : 6635 of 11904

## Sub Interval Windows

Start End  
Month Mar. Mar.  
Day 01 31  
Hour 00 23

## Average Air Temperature

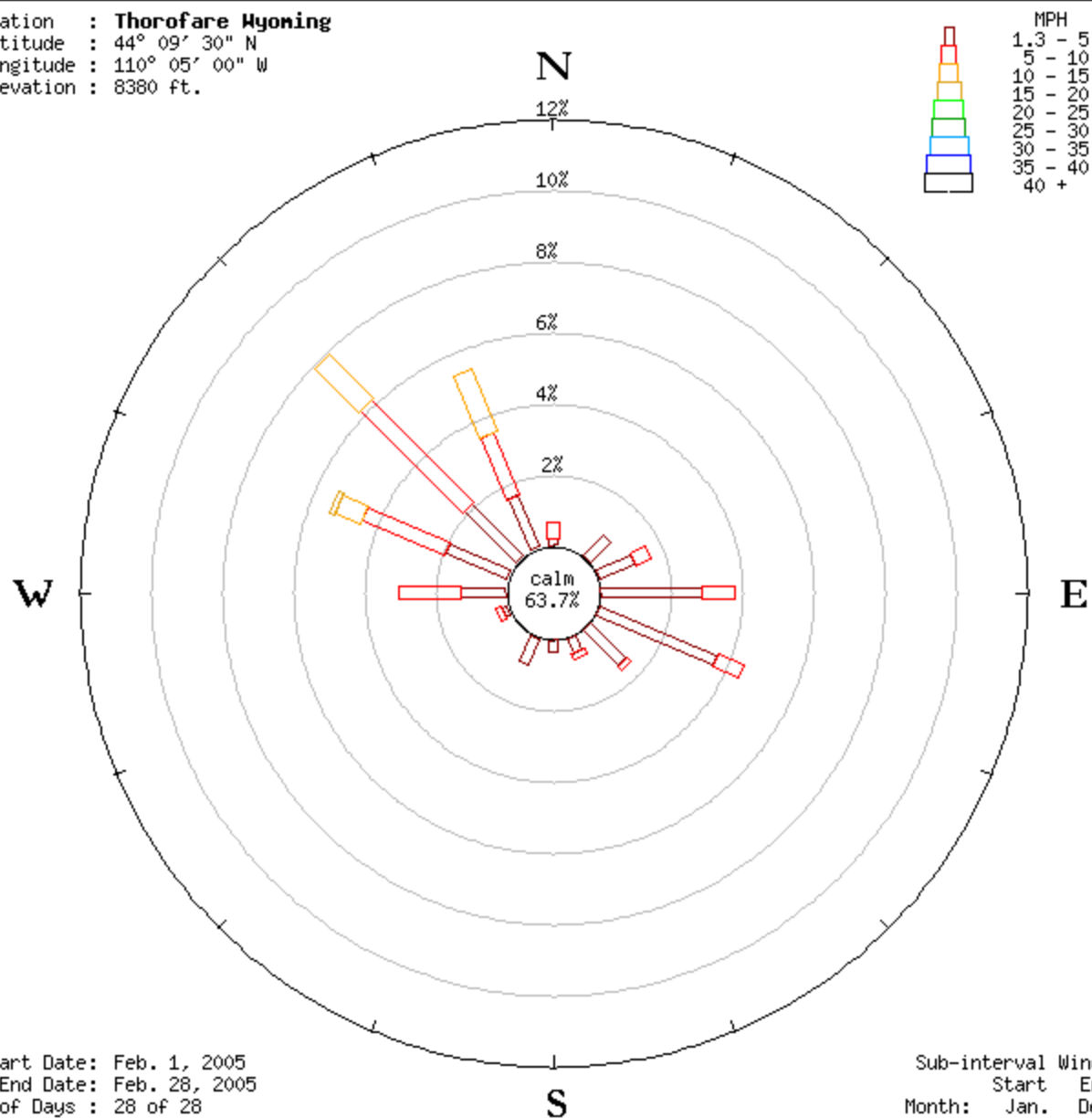
| Percent of Hourly Observations   |                      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
|--|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| Greater than or equal to initial interval value and Less than ending interval value. |                      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| Range  | Hour of day (L.S.T.) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| Deg F  | 1                    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | All  |  |
|  | am                   | am   | am   | am   | am   | am   | am   | am   | am   | am   | am   | pm   | pm   | pm   | pm   | pm   | pm   | pm   | pm   | pm   | pm   | pm   | pm   | pm   | Hrs  |  |
| -15 to -12   |                      |      |      |      |      |      | 0.4  | 0.4  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 0.0  |  |
| -12 to -9  |                      |      | 0.4  | 0.4  | 0.4  | 0.4  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 0.1  |  |
| -9 to -6   | 0.4                  | 0.4  | 0.4  | 0.4  | 0.4  | 0.7  | 0.7  | 0.4  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 0.2  |  |
| -6 to -3   |                      | 0.4  | 0.4  | 0.4  | 0.4  |      |      | 0.4  |      |      |      |      |      |      |      |      |      |      |      |      |      | 0.4  | 0.4  | 0.4  | 0.1  |  |
| -3 to 0  | 1.1                  | 1.1  | 0.7  | 1.1  | 1.1  | 1.8  | 3.0  | 1.8  | 0.4  |      |      |      |      |      |      |      |      |      |      | 0.4  |      | 0.4  | 1.1  | 0.6  |      |  |
| 0 to 3   | 1.4                  | 1.5  | 2.2  | 2.9  | 3.0  | 3.3  | 2.2  | 2.2  | 0.7  |      |      |      |      |      |      |      |      |      |      | 0.4  |      | 0.7  | 1.1  | 0.7  | 0.9  |  |
| 3 to 6   | 1.8                  | 2.9  | 3.3  | 3.3  | 4.1  | 3.3  | 3.3  | 2.2  | 2.9  | 0.4  |      |      |      |      |      |      |      |      | 0.4  | 0.7  | 1.8  | 1.4  | 1.1  | 2.5  | 1.5  |  |
| 6 to 9   | 4.3                  | 4.7  | 4.7  | 5.1  | 4.8  | 6.3  | 7.0  | 5.5  | 1.8  | 1.1  | 0.4  |      |      |      |      |      |      |      | 1.4  | 1.8  | 0.7  | 1.8  | 2.9  | 3.3  | 2.4  |  |
| 9 to 12  | 6.2                  | 6.2  | 6.6  | 6.2  | 7.4  | 7.0  | 8.1  | 7.7  | 4.4  | 1.8  | 0.4  |      |      |      |      |      | 0.4  | 0.7  | 1.8  | 2.2  | 4.3  | 5.0  | 5.5  | 5.4  | 3.6  |  |
| 12 to 15   | 8.0                  | 8.0  | 9.5  | 8.8  | 9.6  | 10.0 | 10.0 | 8.4  | 5.1  | 4.0  | 0.7  | 0.4  |      |      |      | 0.4  | 1.1  | 3.6  | 3.9  | 4.7  | 4.7  | 5.0  | 5.5  | 7.2  | 4.9  |  |
| 15 to 18   | 11.2                 | 11.6 | 12.0 | 13.5 | 12.5 | 12.5 | 11.1 | 12.4 | 8.0  | 2.9  | 2.9  | 2.5  | 1.1  | 1.1  | 1.1  | 2.2  | 3.2  | 4.7  | 5.0  | 6.8  | 10.8 | 10.0 | 12.1 | 13.0 | 7.6  |  |
| 18 to 21   | 14.5                 | 14.5 | 12.8 | 12.4 | 14.4 | 13.3 | 12.6 | 12.8 | 10.6 | 5.5  | 5.0  | 2.5  | 2.9  | 2.5  | 2.8  | 3.9  | 5.0  | 4.3  | 9.3  | 11.5 | 10.4 | 12.9 | 11.7 | 11.6 | 9.1  |  |
| 21 to 24   | 11.2                 | 14.2 | 16.1 | 15.0 | 12.9 | 12.5 | 14.4 | 12.4 | 14.2 | 13.6 | 3.9  | 4.3  | 3.6  | 4.6  | 3.6  | 3.2  | 3.9  | 8.6  | 11.4 | 13.3 | 12.9 | 13.3 | 12.1 | 13.0 | 10.3 |  |
| 24 to 27   | 17.0                 | 15.6 | 13.9 | 14.6 | 13.7 | 14.0 | 12.2 | 14.6 | 14.6 | 11.0 | 9.6  | 6.0  | 4.3  | 2.8  | 5.7  | 10.4 | 10.0 | 13.7 | 13.6 | 12.2 | 13.7 | 14.0 | 16.8 | 17.4 | 12.1 |  |
| 27 to 30   | 10.5                 | 8.0  | 7.7  | 7.7  | 8.9  | 8.1  | 7.0  | 6.2  | 13.5 | 16.5 | 11.4 | 7.5  | 7.1  | 8.5  | 10.3 | 9.0  | 10.8 | 11.9 | 13.2 | 16.2 | 15.1 | 16.8 | 15.0 | 12.0 | 10.8 |  |
| 30 to 33   | 7.6                  | 6.2  | 5.5  | 5.5  | 3.3  | 3.7  | 4.1  | 5.5  | 10.6 | 15.0 | 16.1 | 13.2 | 13.9 | 11.7 | 11.7 | 14.7 | 17.2 | 15.1 | 12.5 | 14.0 | 12.2 | 9.7  | 7.7  | 7.2  | 10.2 |  |
| 33 to 36   | 2.9                  | 3.3  | 1.8  | 1.1  | 1.5  | 0.7  | 0.7  | 3.3  | 4.0  | 7.7  | 10.7 | 12.8 | 13.2 | 11.0 | 14.9 | 8.6  | 10.8 | 9.0  | 13.2 | 9.7  | 9.7  | 6.1  | 5.1  | 3.3  | 6.9  |  |
| 36 to 39   | 1.4                  | 0.7  | 1.1  | 1.1  | 1.1  | 0.7  | 1.5  | 1.1  | 2.6  | 8.1  | 12.1 | 10.7 | 8.9  | 10.7 | 9.6  | 12.5 | 10.4 | 10.8 | 6.1  | 4.7  | 1.4  | 2.5  | 1.5  | 1.1  | 5.1  |  |
| 39 to 42   |                      | 0.4  | 0.7  | 0.4  | 0.4  | 0.7  | 1.1  | 1.8  | 4.4  | 5.5  | 7.5  | 12.1 | 8.2  | 11.4 | 10.0 | 8.2  | 9.7  | 9.0  | 6.8  | 1.1  | 1.4  | 0.4  | 0.7  | 0.4  | 4.3  |  |
| 42 to 45   | 0.4                  | 0.4  | 0.4  |      |      | 0.7  | 0.4  | 0.7  | 1.5  | 2.9  | 7.5  | 7.5  | 11.1 | 10.7 | 7.8  | 10.4 | 10.0 | 5.4  | 0.7  | 0.7  |      |      | 0.4  | 0.4  | 3.4  |  |
| 45 to 48   |                      |      |      | 0.4  | 0.4  |      |      | 0.4  |      | 1.8  | 2.9  | 4.6  | 7.1  | 6.4  | 8.5  | 8.6  | 3.9  | 2.2  | 0.7  |      | 0.4  |      |      |      | 2.0  |  |
| 48 to 51   |                      |      |      |      |      |      |      |      | 0.4  | 1.5  | 3.9  | 5.0  | 7.1  | 6.8  | 7.5  | 4.7  | 2.2  | 0.7  |      |      |      |      |      |      | 1.7  |  |
| 51 to 54   |                      |      |      |      |      |      |      |      | 0.4  | 0.4  | 2.1  | 6.4  | 5.4  | 5.7  | 3.2  | 2.5  | 1.4  | 0.4  |      |      |      |      |      |      | 1.2  |  |
| 54 to 57   |                      |      |      |      |      |      |      |      | 0.4  | 1.1  | 2.5  | 3.2  | 3.2  | 2.5  | 0.7  |      |      |      |      |      |      |      |      |      | 0.6  |  |
| 57 to 60   |                      |      |      |      |      |      |      |      |      | 1.4  | 1.1  | 2.5  | 1.8  | 0.4  |      |      |      |      |      |      |      |      |      |      | 0.3  |  |
| 60 to 63   |                      |      |      |      |      |      |      |      |      | 0.4  | 1.1  |      | 0.7  | 0.4  |      |      |      |      |      |      |      |      |      |      | 0.1  |  |
| 63 to 66   |                      |      |      |      |      |      |      |      |      |      |      | 0.4  | 0.4  |      |      |      |      |      |      |      |      |      |      |      | 0.0  |  |
| Total # obs.   | 276                  | 275  | 274  | 274  | 271  | 271  | 270  | 274  | 274  | 273  | 280  | 281  | 280  | 281  | 281  | 279  | 279  | 278  | 280  | 278  | 278  | 279  | 273  | 276  | 6635 |  |
| Average Deg F  | 21.2                 | 20.5 | 19.9 | 19.5 | 19.2 | 18.8 | 18.6 | 20.2 | 24.5 | 29.3 | 34.3 | 37.4 | 38.7 | 38.9 | 37.5 | 35.8 | 33.6 | 30.9 | 27.9 | 25.9 | 24.8 | 23.7 | 22.9 | 21.7 | 27.0 |  |

March 1989-2004

Hourly Frequency Distribution of Temperature

# Thorofare Wyoming

Station : **Thorofare Wyoming**  
Latitude : 44° 09' 30" N  
Longitude : 110° 05' 00" W  
Elevation : 8380 ft.



Start Date: Feb. 1, 2005  
End Date: Feb. 28, 2005  
# of Days : 28 of 28  
# obs:poss: 638 of 672

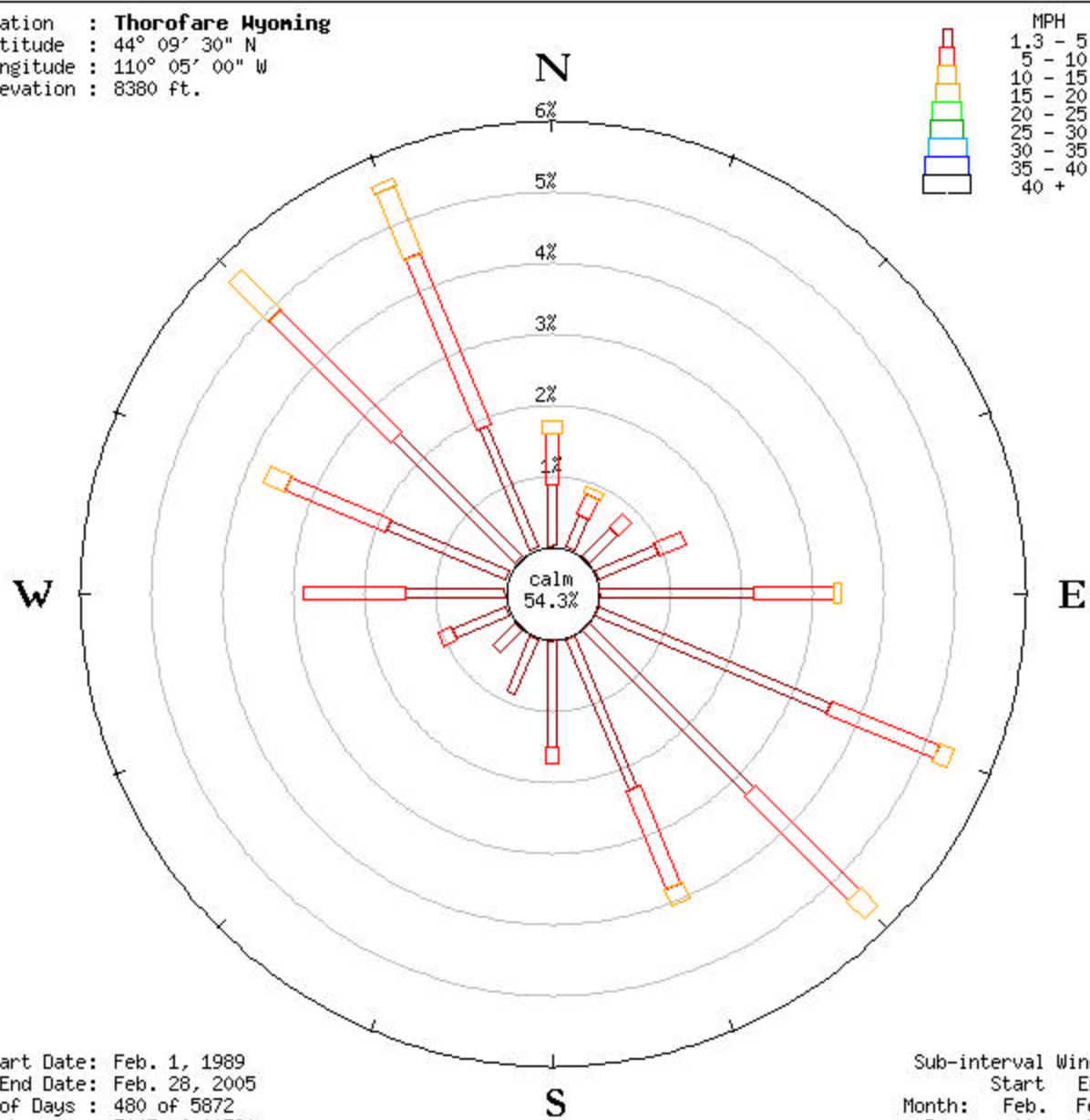
©Western Regional Climate Center

Sub-interval Windows  
Start End  
Month: Jan. Dec.  
Day: 01 31  
Hour: 00 23



# Thorofare Wyoming

Station : Thorofare Wyoming  
 Latitude : 44° 09' 30" N  
 Longitude : 110° 05' 00" W  
 Elevation : 8380 ft.



Start Date: Feb. 1, 1989  
 End Date: Feb. 28, 2005  
 # of Days : 480 of 5872  
 # obs:poss: 7147 of 11520  
 ©Western Regional Climate Center

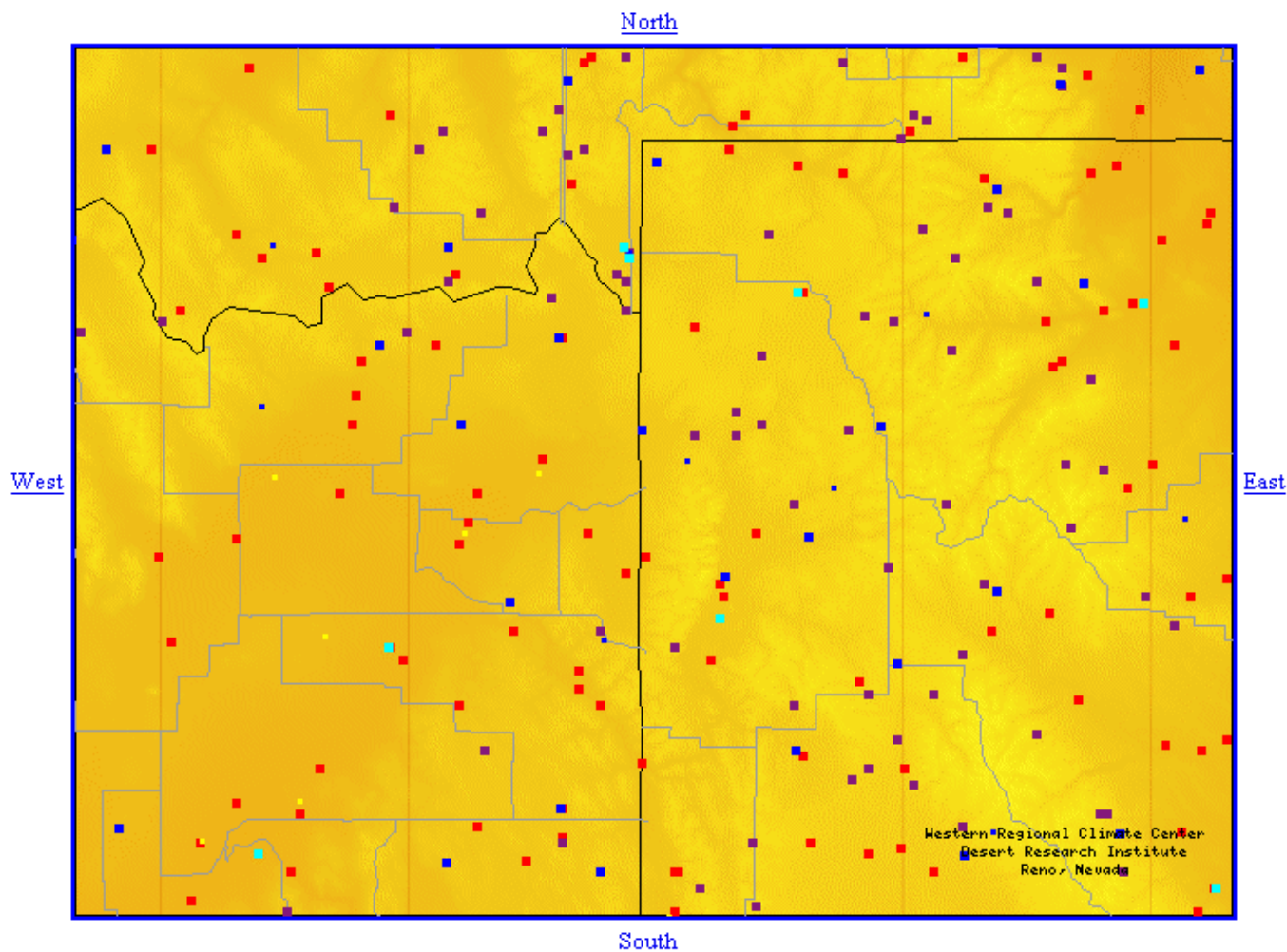
Sub-interval Windows

|        | Start | End  |
|--------|-------|------|
| Month: | Feb.  | Feb. |
| Day:   | 01    | 29   |
| Hour:  | 00    | 23   |

Select a site by placing mouse cursor over a site. Site name will appear in location box below the map if browser supports javascript1.1. Click site to go to graphing options.

Large boxes indicate stations that had reported during the month when these maps were last generated. Small boxes indicate inactive or removed stations.

Map last generated on 12/01/03. If a location has multiple stations or more than one platform in the near vicinity, overlapping boxes may create difficulty when selecting from the map. Select from the list to the left in such cases.



# Montana Climate Summaries

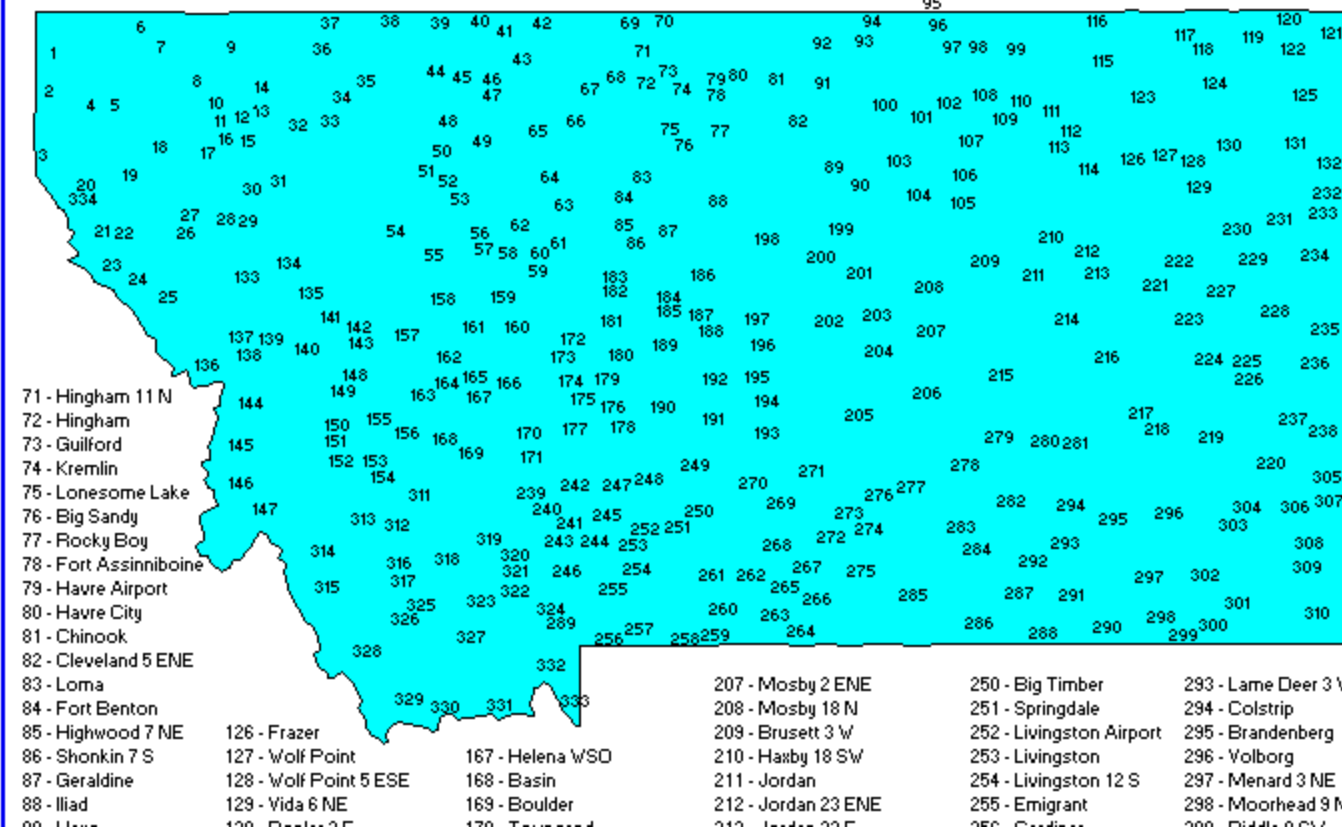
Western  
U.S. map

Home  
Page

Back to:  
Alphabetical Station List

- [Albion](#)
- [Alder 17S](#)
- [Anaconda](#)
- [Apex 2NW](#)
- [Augusta](#)
- [Austin](#)
- [Babb](#)
- [Baker](#)
- [Ballantine](#)
- [Barber](#)
- [Basin](#)
- [Belfry 4SSW](#)
- [Belgrade](#)
- [Belltower](#)
- [Biddle](#)
- [Biddle 8SW](#)
- [Bigfork 13S](#)
- [Big Sandy](#)
- [Big Sky 3S](#)
- [Big Timber](#)
- [Billings Water Plant](#)
- [Billings](#)
- [Burney](#)
- [Blackleaf](#)
- [Bloomfield](#)
- [Boulder](#)
- [Boyes](#)
- [Bozeman - Montana State University](#)
- [Bozeman 6SW](#)

|                |                       |                          |                      |                       |                     |                    |
|----------------|-----------------------|--------------------------|----------------------|-----------------------|---------------------|--------------------|
| 1 - Troy 18 N  | 11 - Kalispell AP     | 21 - Thompson Falls      | 31 - Swan Lake       | 41 - Sunburst 8 E     | 51 - Blackleaf      | 61 - Great Falls   |
| 2 - Troy       | 12 - Columbia Falls   | 22 - Thompson Falls P.H. | 32 - Essex           | 42 - Goldbutte 7 N    | 52 - Bynum          | 62 - Power 6 SE    |
| 3 - Heron      | 13 - Hungry Horse Dam | 23 - Haugan 3 E          | 33 - Summit          | 43 - Dunkirk 15 NNE   | 53 - Choteau        | 63 - Carter 14 W   |
| 4 - Libby      | 14 - West Glacier     | 24 - St. Regis R.S.      | 34 - East Glacier    | 44 - Cut Bank Airport | 54 - Gibson Dam     | 64 - Brady Aznoe   |
| 5 - Libby Dam  | 15 - Creston          | 25 - Superior            | 35 - Browning        | 45 - Ethridge         | 55 - Augusta        | 65 - Galata 16 SSW |
| 6 - Eureka     | 16 - Kalispell        | 26 - Hot Springs         | 36 - St. Mary        | 46 - Shelby Airport   | 56 - Fairfield      | 66 - Tiber Dam     |
| 7 - Fortine    | 17 - Kila             | 27 - Lonepine            | 37 - Babb 6 NE       | 47 - Shelby           | 57 - Simms          | 67 - Chester       |
| 8 - Olney      | 18 - Pleasant Valley  | 28 - Polson Kerr Dam     | 38 - Del Bonita      | 48 - Valier           | 58 - Sun River      | 68 - Joplin        |
| 9 - Polebridge | 19 - Libby 32 SSE     | 29 - Polson              | 39 - Santa Rita 20 N | 49 - Conrad           | 59 - Ulm 8 SE       | 69 - Rudyard 27 N  |
| 10 - Whitefish | 20 - Trout Creek R.S. | 30 - Bigfork 13 S        | 40 - Sweetgrass      | 50 - Pendroy          | 60 - Great Falls AP | 70 - Simpson 6 NW  |



## General Climate Summary Tables

- [Temperature](#)
- [Precipitation](#)
- [Heating Degree Days](#)
- [Cooling Degree Days](#)
- [Growing Degree Days](#)

### Temperature

- [Daily Extremes and Averages](#)
- [Spring 'Freeze' Probabilities](#)
- [Fall 'Freeze' Probabilities](#)
- ['Freeze Free' Probabilities](#)
- Monthly Temperature Listings
  - [Average](#)
  - [Average Maximum](#)
  - [Average Minimum](#)
  - [Extreme Maximum\(\\*\)](#)
  - [Extreme Minimum\(\\*\)](#)

### Precipitation

- [Monthly Average](#)
- [Daily Extreme and Average](#)
- [Daily Average](#)
- [Precipitation Probability by Duration](#)
- [Precipitation Probability by Quantity](#)
- Monthly Precipitation Listings
  - [Monthly Totals](#)
  - [Daily Extreme\(\\*\)](#)

### Snowfall

- [Daily Extreme and Average](#)
- [Daily Average](#)

# HEBGEN DAM, MONTANA (244038)

## Period of Record Monthly Climate Summary

Period of Record : 7/ 1/1948 to 9/30/2004

|                                      | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  | Annual |
|--------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| Average Max.<br>Temperature (F)      | 21.9 | 27.8 | 36.4 | 46.6 | 59.0 | 68.7 | 78.2 | 77.1 | 66.8 | 52.0 | 33.4 | 22.8 | 49.2   |
| Average Min.<br>Temperature (F)      | 2.9  | 5.1  | 11.6 | 22.4 | 31.4 | 38.2 | 43.5 | 42.5 | 35.5 | 27.7 | 17.1 | 5.3  | 23.6   |
| Average Total<br>Precipitation (in.) | 3.09 | 2.43 | 2.40 | 1.92 | 2.89 | 3.03 | 1.76 | 1.75 | 1.72 | 1.72 | 2.49 | 3.11 | 28.32  |
| Average Total SnowFall<br>(in.)      | 47.3 | 36.5 | 29.8 | 10.5 | 2.8  | 0.3  | 0.0  | 0.0  | 0.4  | 5.3  | 27.2 | 48.1 | 208.2  |
| Average Snow Depth<br>(in.)          | 28   | 35   | 36   | 19   | 1    | 0    | 0    | 0    | 0    | 0    | 5    | 17   | 12     |

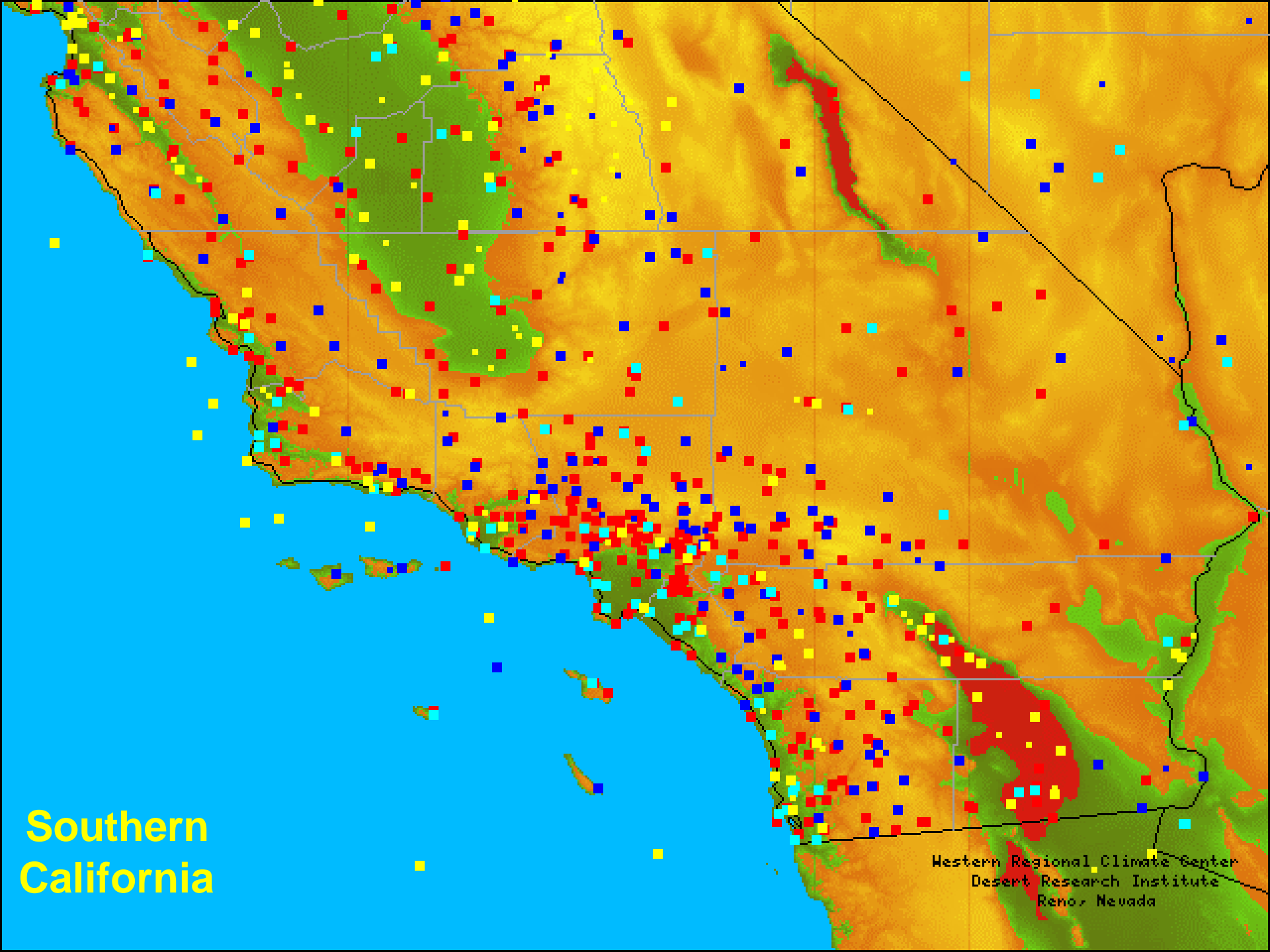
Percent of possible observations for period of record.

Max. Temp.: 95.7% Min. Temp.: 95.5% Precipitation: 97.8% Snowfall: 97.4% Snow Depth: 95.1%

Check [Station Metadata](#) or [Metadata graphics](#) for more detail about data completeness.

Western Regional Climate Center, [wrcc@dri.edu](mailto:wrcc@dri.edu)

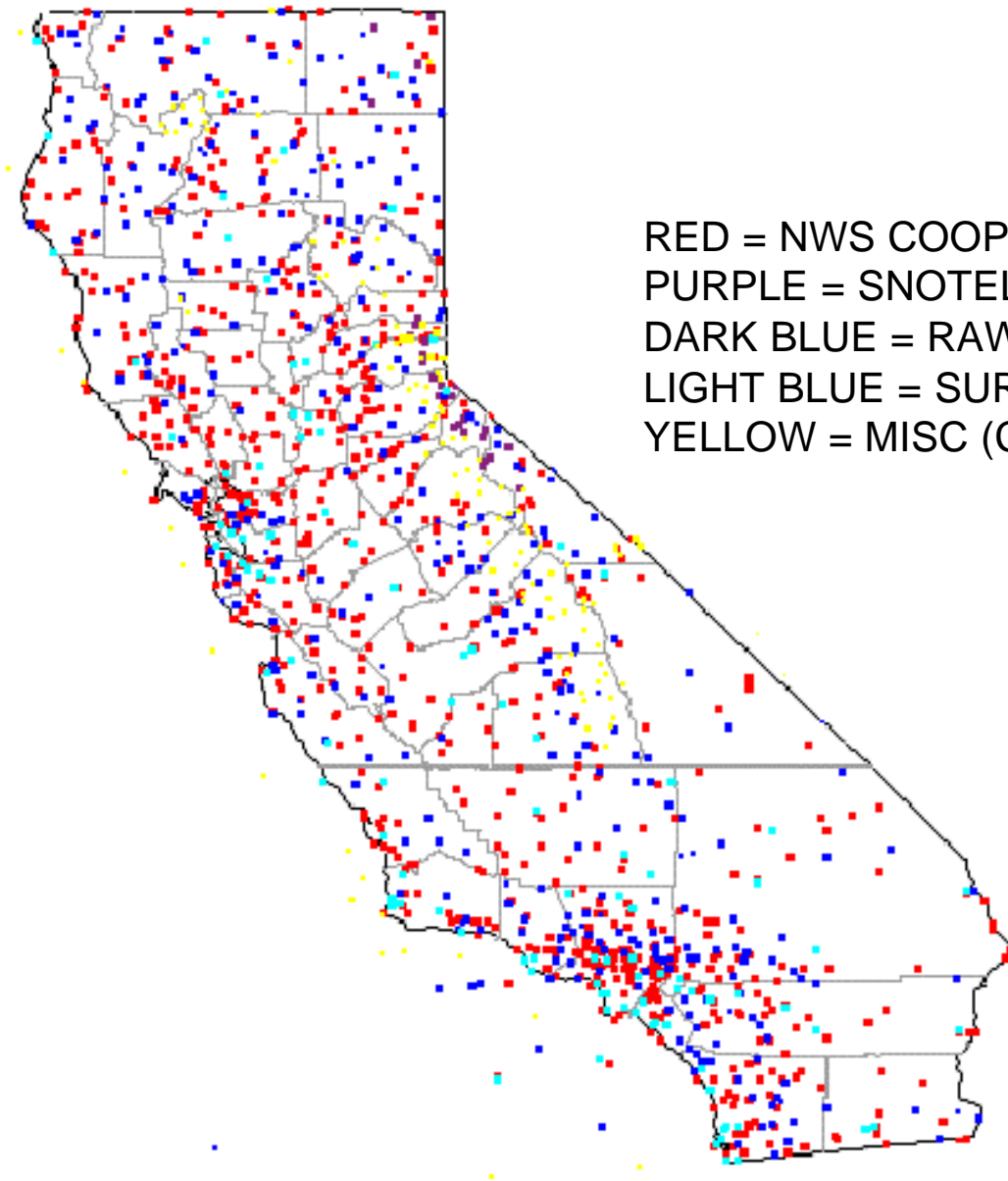




Southern  
California

Western Regional Climate Center  
Desert Research Institute  
Reno, Nevada

# Current Stations



RED = NWS COOP

PURPLE = SNOTEL

DARK BLUE = RAWS

LIGHT BLUE = SURFACE AIRWAYS

YELLOW = MISC (CURRENTLY CIMIS, CDEC, BUOYS)

# Climate Anomaly Maps and Tables

[Western U.S.](#) | [Arizona](#) | [California](#) | [Colorado](#) | [Idaho](#) | [Montana](#) | [Nevada](#) | [New Mexico](#) | [Oregon](#) | [Utah](#) | [Washington](#) | [Wyoming](#)

Updated Daily at around noon PST

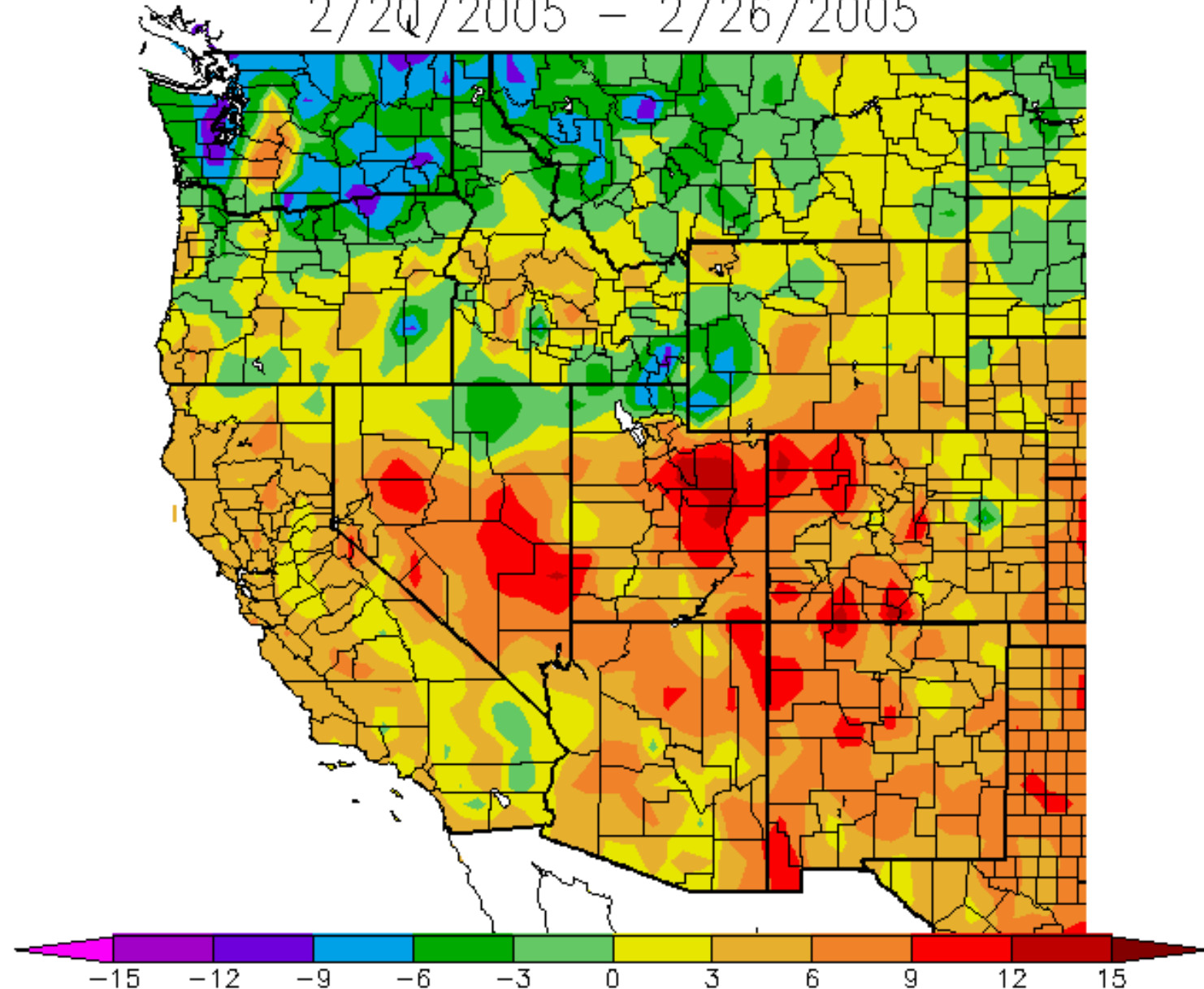
Available for following periods:

## Western U.S.

|  | Past Week<br>(Most recent<br>7-days) | Past Two Weeks<br>(Most recent<br>14-days) | Past Month (Most<br>recent 30-days) | Past 2 Months<br>(Most recent<br>60-days) | Past 3 Months<br>(Most recent<br>90-days) | Past 1/2 Year (Most<br>recent 6-months) | Past 1 Year (Most<br>recent 12-months) | Past 2 Years (Most<br>recent 24-months) | Past 3 Years (Most<br>recent 36-months) | Current<br>Month                    | Since Jan. 1,<br>2004 - Current | Since Apr. 1,<br>2003 - Current | Since Jul. 1,<br>2003 - Current | Since Oct. 1, 2003 -<br>Current (Water<br>Year) |
|--|--------------------------------------|--|-------------------------------------|---|---|---|--|---|---|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|---|
| * - Contoured map with station values overlay    |                                      |  |                                     |   |   |   |  |   |   |                                     |                                 |                                 |                                 |   |
| Climate Anomaly Table<br>Tabular Listing by site | <a href="#">7 days</a>               | <a href="#">14 days</a>                    | <a href="#">30 days</a>             | <a href="#">60 days</a>                   | <a href="#">90 days</a>                   | <a href="#">6 month</a>                 | <a href="#">12 month</a>               | <a href="#">24 month</a>                | <a href="#">36 month</a>                | <a href="#">Current<br/>Month</a>   | <a href="#">Jan. 1</a>          | <a href="#">Apr. 1</a>          | <a href="#">Jul. 1</a>          | <a href="#">Oct. 1</a>                          |
| Max. Temperature                                 | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Max. Temperature<br>departure from Average       | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Max. Temperature<br># Days >= 90F.               | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Ave. Temperature                                 | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Ave. Temperature<br>w/averages                   | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Ave. Temperature<br>departure from Average       | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Min. Temperature                                 | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Min. Temperature<br>departure from Average       | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Min. Temperature<br># Days <= 32F.               | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Precipitation                                    | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Precipitation w/averages                         | <a href="#">7 days</a>               | <a href="#">14 days</a>                    | <a href="#">30 days</a>             | <a href="#">60 days</a>                   | <a href="#">90 days</a>                   | <a href="#">6 month</a>                 | <a href="#">12 month</a>               | <a href="#">24 month</a>                | <a href="#">36 month</a>                | <a href="#">Current<br/>month</a>   | <a href="#">Jan. 1</a>          | <a href="#">Apr. 1</a>          | <a href="#">Jul. 1</a>          | <a href="#">Oct. 1</a>                          |
| Precipitation departure<br>from Average          | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Precipitation percent of<br>Average              | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Precipitation<br># Days > 0.01"                  | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Precipitation<br># Days > 0.10"                  | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Precipitation<br># Days > 0.25"                  | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Precipitation<br># Days > 1.00"                  | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Heating Degree Days                              | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Heating Degree Days<br>departure from Average    | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Cooling Degree Days                              | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Cooling Degree Days<br>Departure from Average    | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Growing Degree Days<br>base 40                   | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |
| Growing Degree Days<br>base 50                   | <a href="#">7 days *</a>             | <a href="#">14 days *</a>                  | <a href="#">30 days *</a>           | <a href="#">60 days *</a>                 | <a href="#">90 days *</a>                 | <a href="#">6 month *</a>               | <a href="#">12 month *</a>             | <a href="#">24 month *</a>              | <a href="#">36 month *</a>              | <a href="#">Current<br/>month *</a> | <a href="#">Jan. 1 *</a>        | <a href="#">Apr. 1 *</a>        | <a href="#">Jul. 1 *</a>        | <a href="#">Oct. 1 *</a>                        |

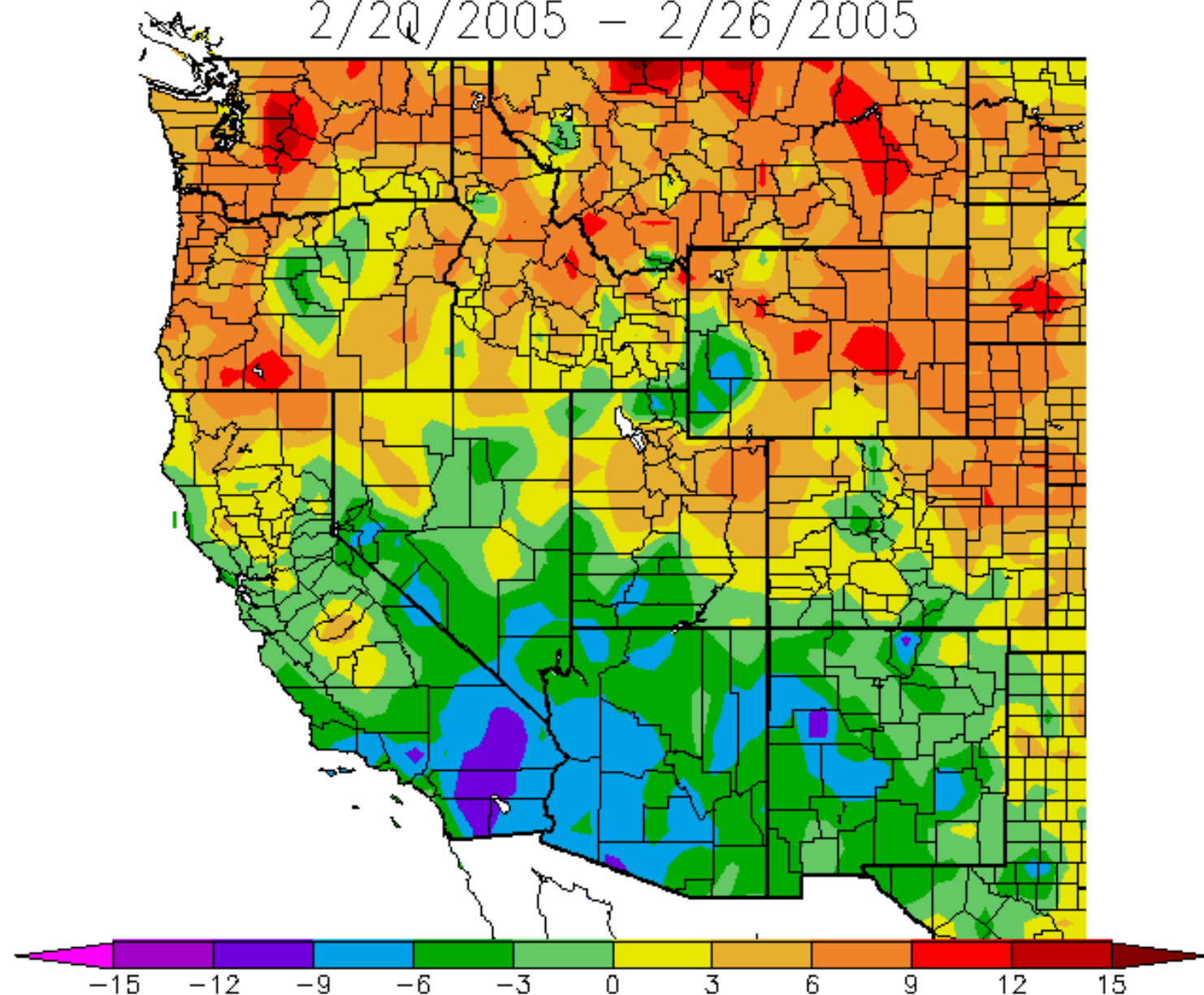


Av. Min. Temperature dep from Ave (deg. F)  
2/20/2005 - 2/26/2005



Generated 2/27/2005 at WRCC using provisional data.  
NOAA Regional Climate Centers

Av. Max. Temperature dep from Ave (deg F)  
2/20/2005 – 2/26/2005



Generated 2/27/2005 at WRCC using provisional data.  
NOAA Regional Climate Centers

Ave. Temperature dep from Ave (deg F)  
2/20/2005 – 2/26/2005

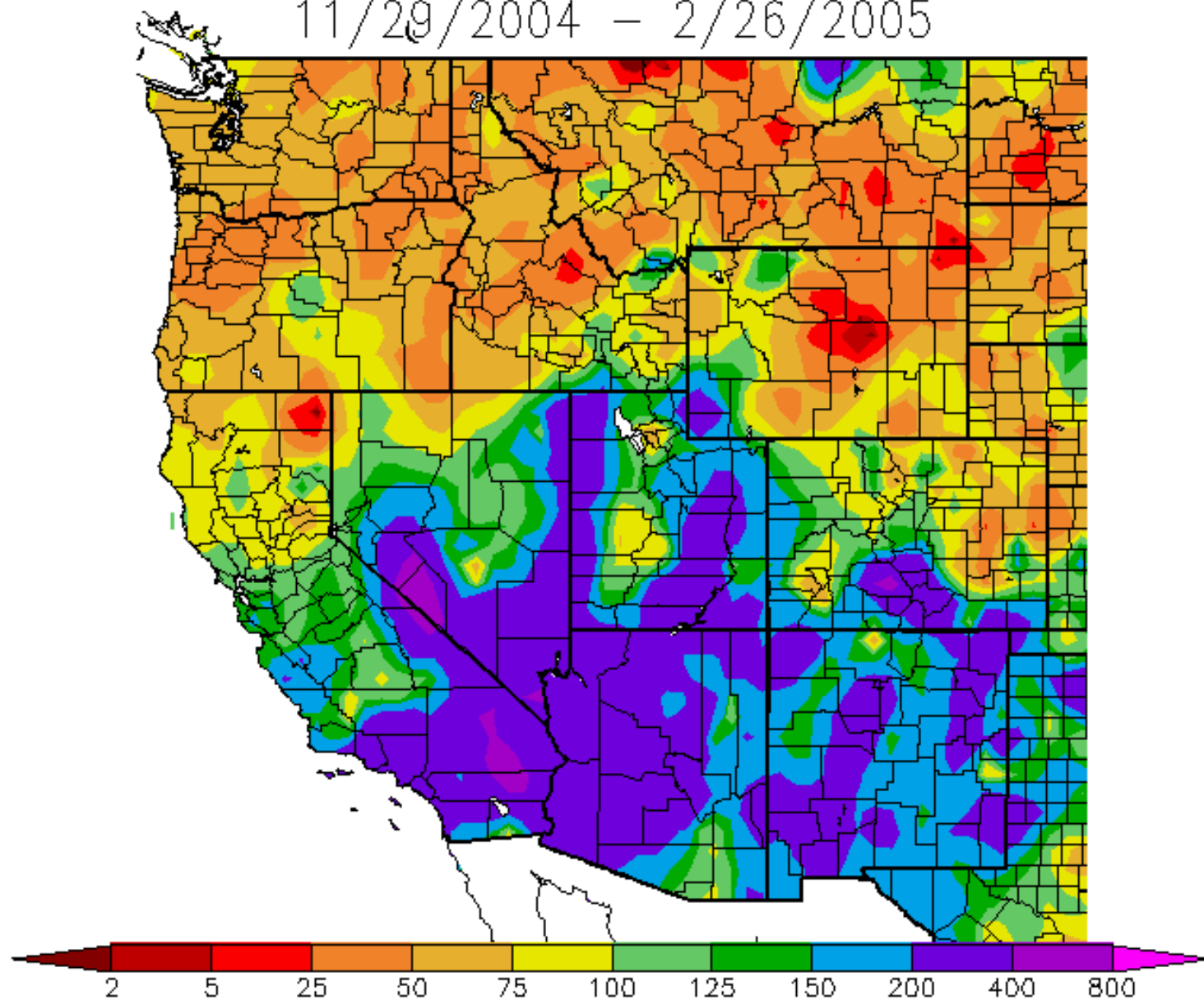


Generated 2/27/2005 at WRCC using provisional data.

NOAA Regional Climate Centers



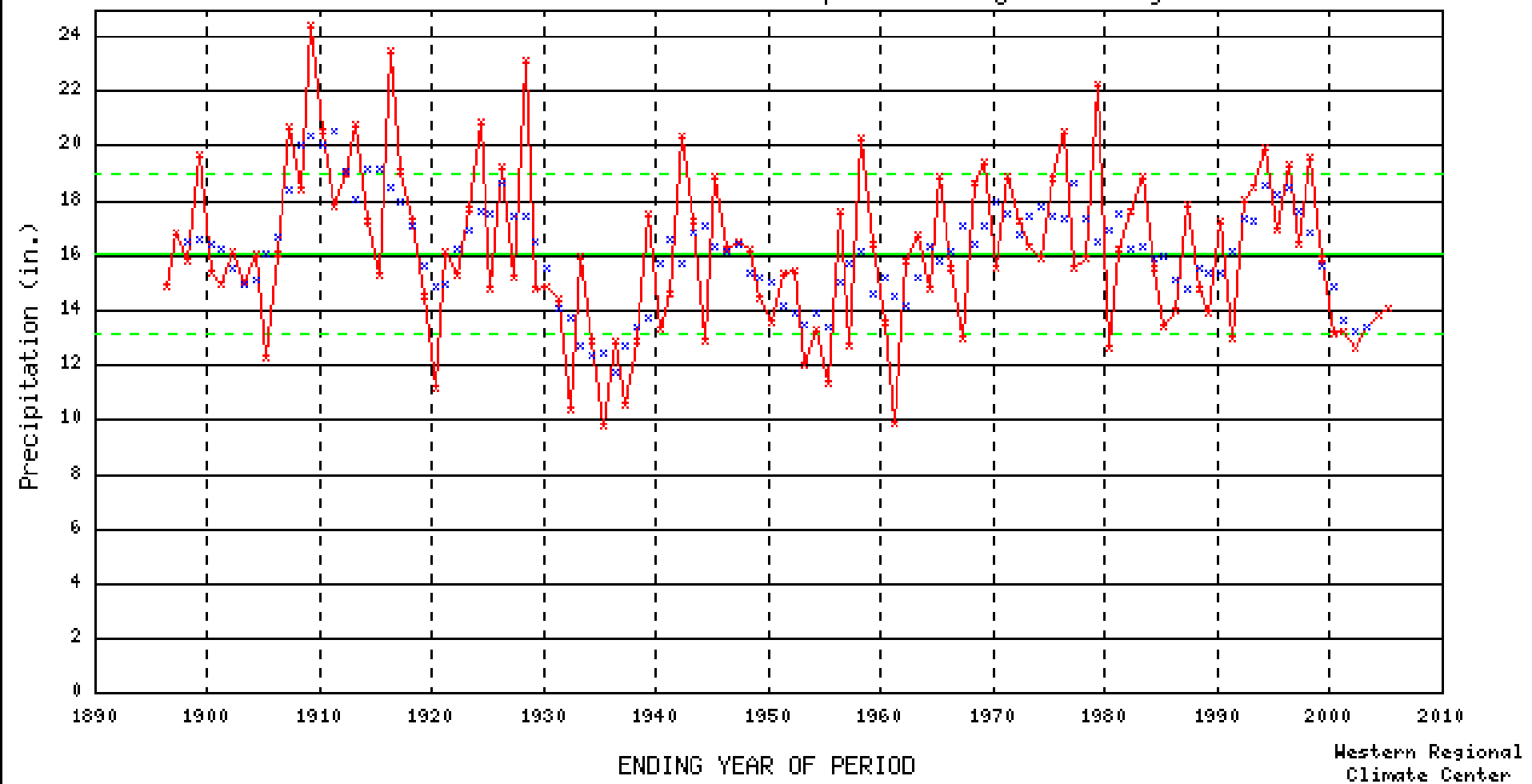
Percent of Average Precipitation (%)  
11/29/2004 – 2/26/2005



Generated 2/27/2005 at WRCC using provisional data.  
NOAA Regional Climate Centers

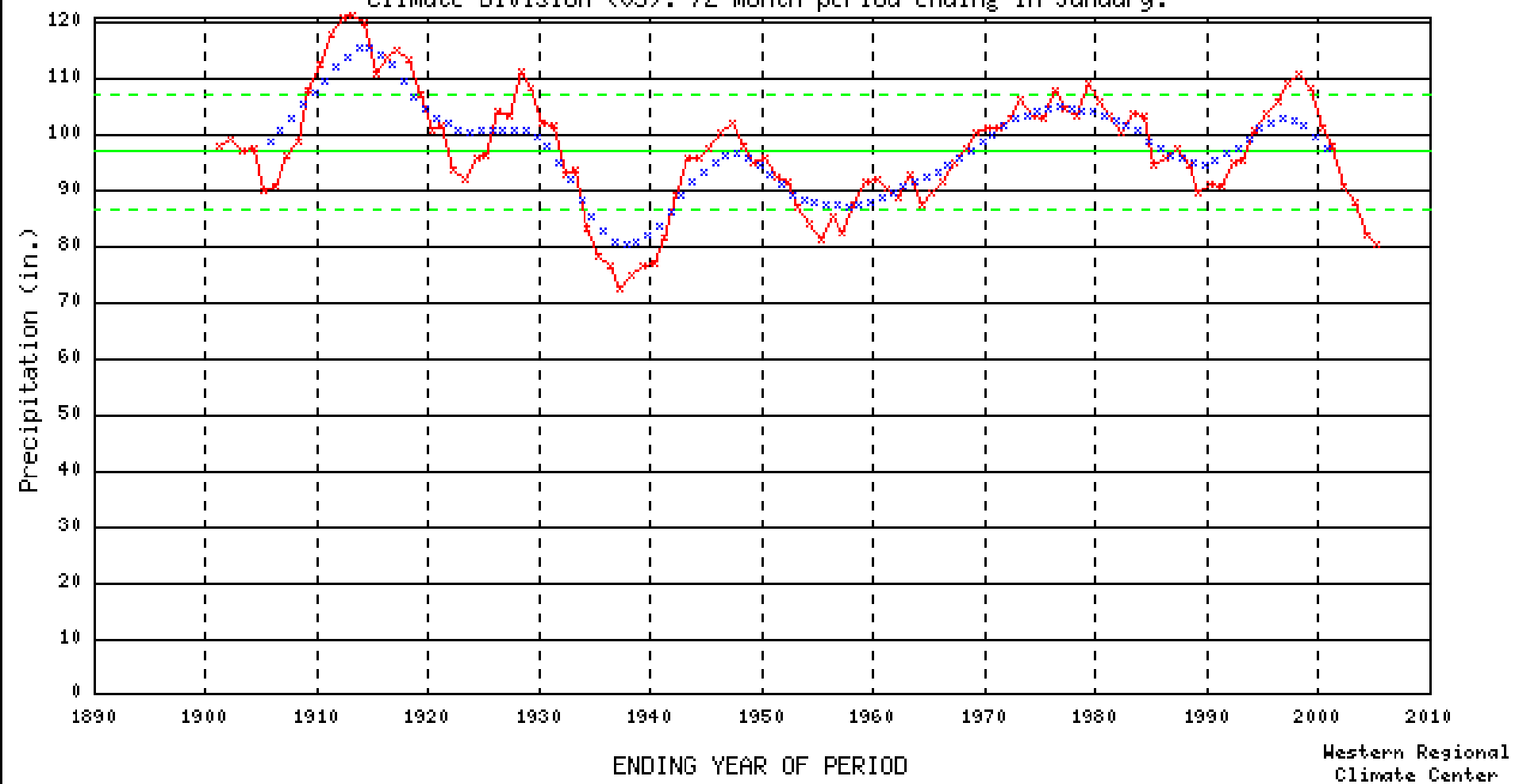
# South Central Division, Montana Precipitation (in.)

Climate Division (05). 12 month period ending in January.



# South Central Division, Montana Precipitation (in.)

Climate Division (05). 72 month period ending in January.

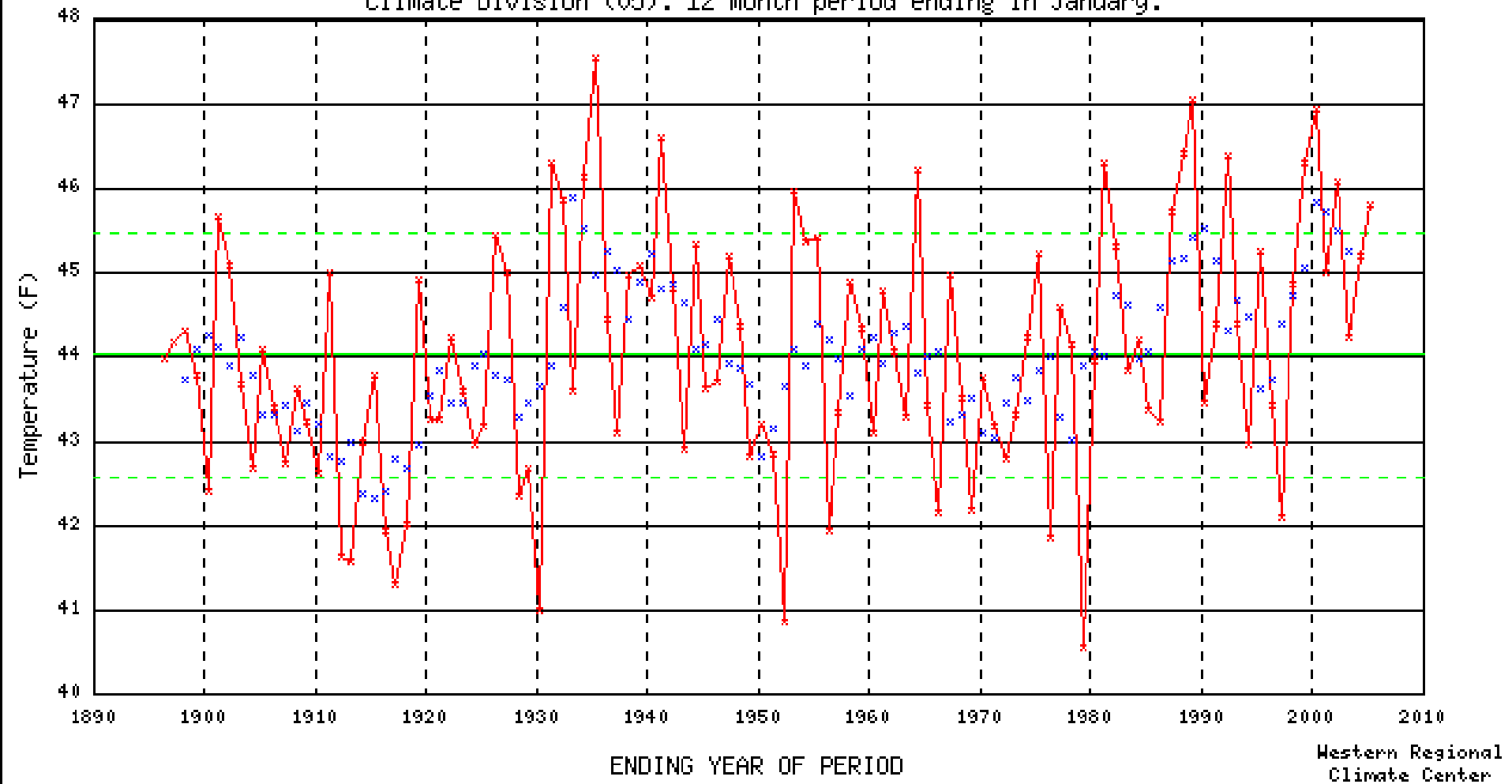


Western Regional  
Climate Center



# South Central Division, Montana Temperature (F)

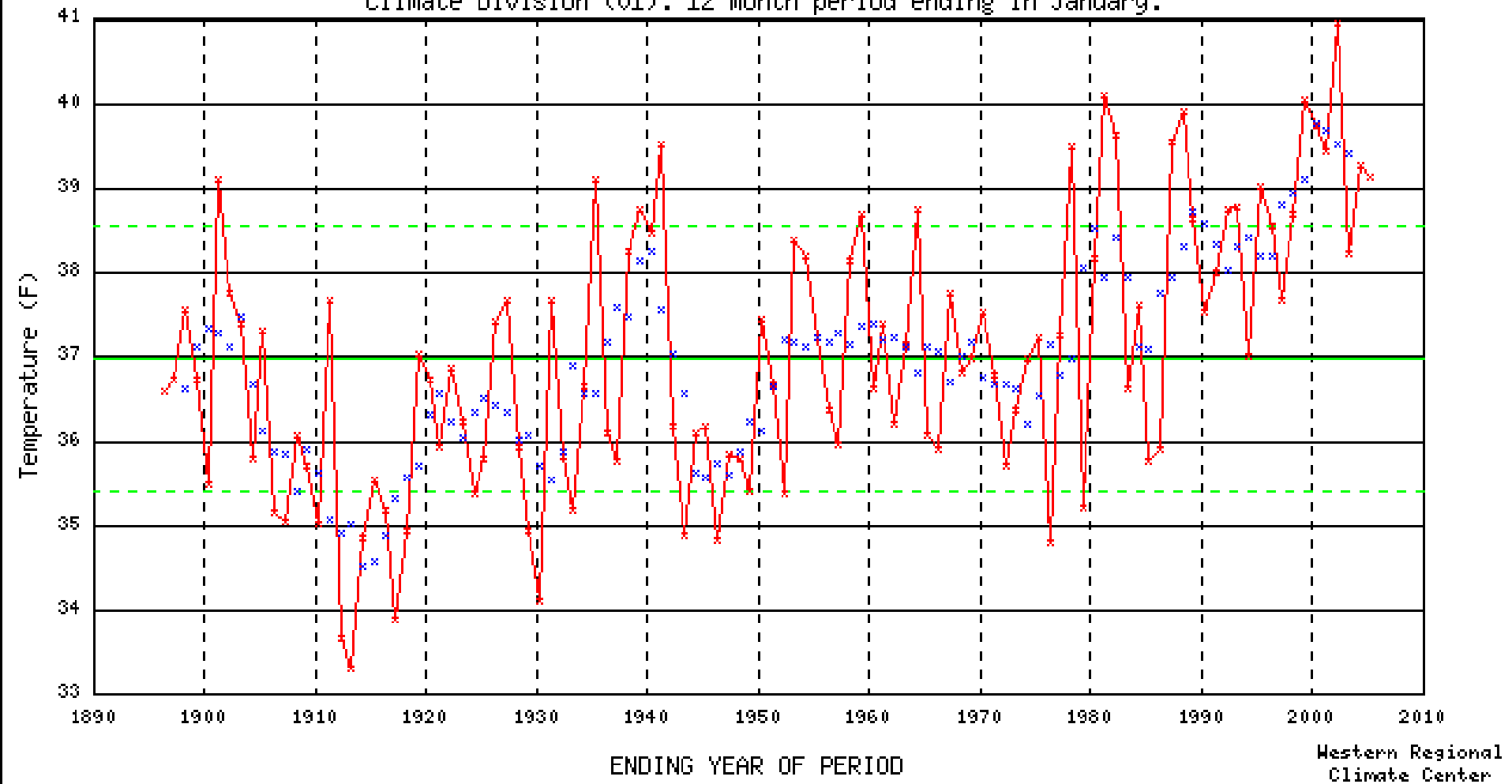
Climate Division (05). 12 month period ending in January.



Western Regional  
Climate Center

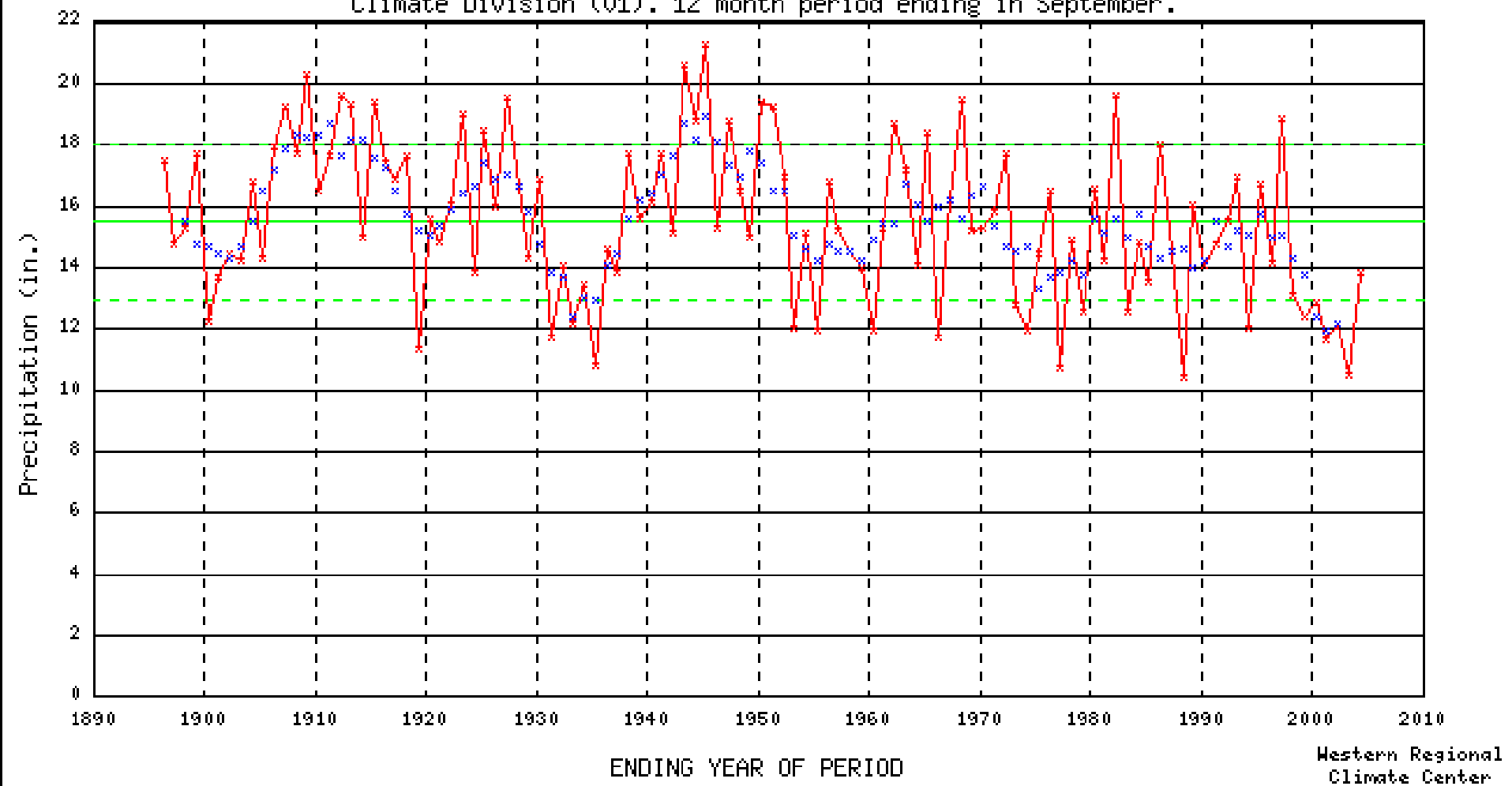
# Yellowstone Drainage Division, Wyoming Temperature (F)

Climate Division (01). 12 month period ending in January.



# Yellowstone Drainage Division, Wyoming Precipitation (in.)

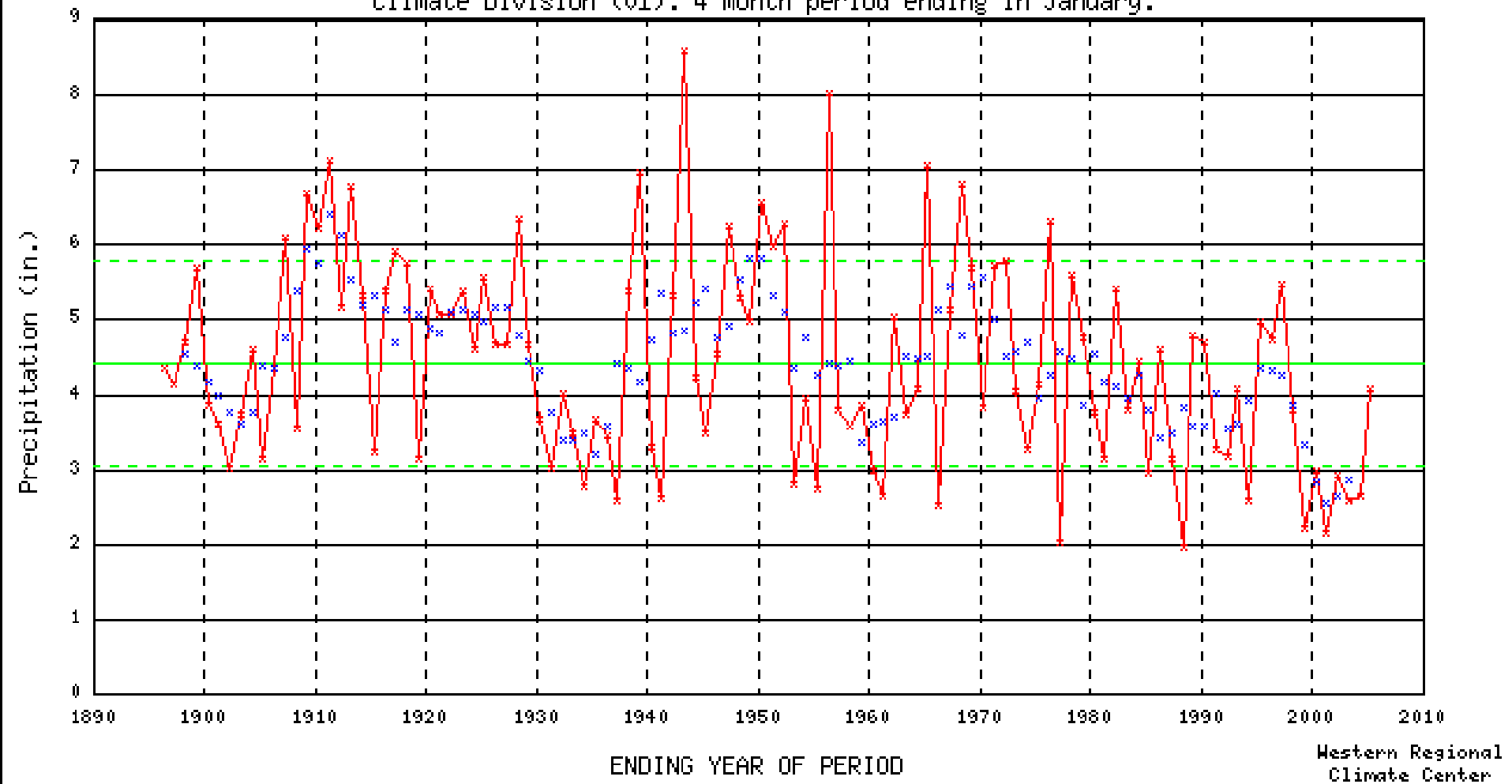
Climate Division (01). 12 month period ending in September.





# Yellowstone Drainage Division, Wyoming Precipitation (in.)

Climate Division (01). 4 month period ending in January.



Thank You

